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Gleanings in Bee Culture

VOL. XXXVIII

SEPTEMBER 15, 1910

NO. 18

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A YEAR'S WORK IN AN OUT-APIARY

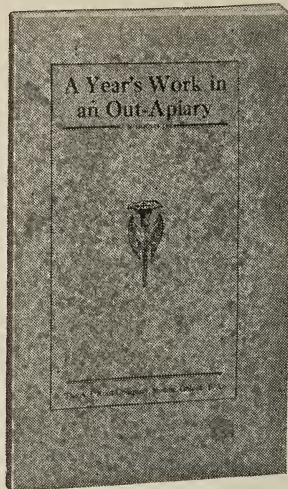
.. OR ..

An average of 114½ pounds of honey
per colony, in a poor season,
and how it was done.

First edition, Dec., 1908, 1000 copies.
Second edition, Jan., 1909, 3000 copies.

By G. M. DOOLITTLE

Author of "Scientific Queen Rearing."



Mention has already been made of this book in our reading-columns; but there is such an unusual interest in it that we call attention to it once more.

To understand the scope of the work better, please notice that it contains the following chapters:

- Chapter I. An average of 114½ pounds of section honey per colony in a poor season, and how it was done.
- .. II. Same, continued.
- .. III. Bloom time.
- .. IV. How to control swarms when running for comb honey.
- .. V. A simple and reliable plan for making increase.
- .. VI. How to save unnecessary lifting in taking off filled supers of honey.
- .. VII. Taking off the surplus; what to do with the unfinished sections, preparation for the buckwheat flow.
- .. VIII. Progress in the snipers.
- .. IX. A simple way to put on escapes without lifting.
- .. X. Taking off the Honey and storing it at the outyard.
- .. XI. Same, continued.
- .. XII. Closing words; further suggestions to the plans given in the preceding chapters.

The author says in the preface:

While the book is intended for the specialist, it is none the less desirable for the plain, every-day bee-keeper, with his one home apiary, or for the amateur with his five to ten colonies; and because this book is for the specialist in bee-keeping I have not gone into first principles or the A B C of our pursuit, as the specialist has passed these rudimentary things long ago. There are plenty of good books before one, and all who are desirous of learning of the foundation structure, therefore, have no need of repeating here. The amateur should certainly procure, read, and digest one or more of these books upon entering the ranks of apiculture.

What Mr. W. Z. Hutchinson, editor of *The Bee-keepers' Review*, says:

"A Year's Work in an Out-Apiary" is packed full of the most valuable information that has ever been given to bee-keepers. Like a few other books, it is a difficult one to review. It is so boiled down and condensed that there is very little that can be left out. I am going to do the best I can at it, but I'll say right here that every bee-keeper would do much better to buy the book and read it in its entirety. While the book is really a record of one year's work (12 visits) in an out-apiary, in which, during a poor season (1905), 114½ pounds of section honey per colony were secured, it is descriptive of a plan that was perfected during some ten or fifteen years of previous experimenting. To put the whole thing in a nut-shell, it tells how to manage an out-apiary for the most profitable production of comb honey, and, at the same time, prevent all swarming.

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Cleanings in Bee Culture

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Editorial

THAT SCHEME OF FILLING 60-LB. SQUARE CANS.

IF the reader failed to take notice of the article by W. C. Evans in Aug. 1st issue, p. 489, he should do so now. This is one of the most valuable communications we have ever published, and his trick of filling square cans is so unique and simple that every extracted producer who puts up his honey in cans of this sort should not lose sight of it. We have tested it here at Medina, and *know that it works.*

OHIO BEE-INSPECTION WORK.

CHIEF INSPECTOR SHAW, our State Entomologist at Columbus, finds he is having more calls to visit apiaries supposed to be diseased than he can answer promptly. He has about ten or twelve men at work. Our Ohio bee-keepers will, therefore, exercise a little patience, as we know Prof. Shaw is doing all he possibly can, considering the fact that he has just begun on the problem of eradicating and holding in check bee diseases in Ohio.

HONEY-CROP CONDITIONS; PRICES FIRM.

THE evidence begins to show, either that there is going to be a greater scarcity of good comb honey, Eastern or Western, than we supposed earlier in the season, or that there is a large amount on the hives which bee-keepers have failed to take off. If this latter is the fact, producers should remember that *now* is the time to get good prices. It would be a mistake to dump it on the market just about the holidays, or a little after. "The early bird is the one that catches the worm." This applies particularly to comb honey.

While there is not the same scarcity of extracted, yet the crop probably will not be as large as was originally anticipated. In our judgment, prices should be firm on both comb and extracted.

FOUL BROOD IN BEE-TREES.

THERE has been a general feeling that brood diseases are unknown in colonies living in trees, the idea being based, perhaps, on the assumption that a swarm going into new quarters would not carry the germs of the disease. Whether or not this is true,

there is no question but that colonies may get foul brood through robbing diseased colonies, and bees from trees are likely to rob as quickly as those from colonies in hives. In a recent letter Dr. E. F. Phillips made the statement that bee-trees are frequently diseased, and, in regions where disease is epidemic, generally so, this being a serious handicap in cleaning up the trouble. He said further that reports of disease in trees were often received. Dr. Phillips thinks that, by keeping a close watch, the disease in a locality may be kept under control; for before long the colonies in the trees die and the combs are destroyed. At any rate, past experience shows that the situation is not hopeless, and that the careless bee-keeper is a worse pest than the bee-tree.

THE IGNORANCE OF THE PUBLIC IN REGARD TO APIARIAN MATTERS.

WHEN legislation is proposed to control shipments of cattle, or whenever rules are adopted in reference to cattle-breeding, etc., the newspapers generally give a pretty accurate account of the whole proceedings; but whenever bee-keepers get together and formulate a set of rules, or when legislation is proposed in the effort to control bee-diseases, it seems to be the signal for fertile-brained reporters to write up a funny "story" for their respective papers. Perhaps it is because the bees are considered nothing but "hot-tempered bugs" that any reference to them should be considered so ridiculously funny. The following paragraphs from one of the above-mentioned funny stories illustrate the attitude of certain newspapers toward the efforts of bee-keepers:

Naturally one of the first things to be done is to make each bee register. Identification tags could be furnished, and each applicant that expects to engage in the honey-making industry may be compelled to pass a rigid examination. One can not be too particular about these things, and should compel every bee to respect the new regulations.

Queen-bees probably will be encouraged to settle in this State, and swarming prohibited. A competent squad of pan-beaters to cope with the swarming evil will naturally be an important branch of the inspector's staff. Plain-clothes bee detectives will doubtless be immediately detailed to break up the bee gangs that infest the woods.

There will likely be established certain regulations providing for what might be termed interstate bee licenses. As the conditions exist at present, any bee from Pennsylvania or New York can come into the State and gather sweets from the gardens without paying a cent of tax, which is, of course, a great injustice to the local hunting bee.

It is expected that a delegation of New Jersey bees will wait upon the new inspector and impress this point upon his mind or any other available spot.

PAINTING HIVES WITH PURE LEAD AND OIL.

WE desire to indorse every thing our correspondent, Dr. A. F. Bonney, says in behalf of pure white lead, page 586, this issue. There are some localities where a lead-zinc paint gives better results; but the objection to zinc is that it makes the paint so hard that it is liable to come off in flakes, while the pure lead will chalk off. For example, a house that is painted with pure lead can be repainted, and look as good as new; but a lead-zinc paint that has begun to come off gives a patchy uneven appearance when a new coat is put on. It takes much longer to remove the zinc scales than it does to repaint the house. For these reasons the average bee-keeper will find it more satisfactory to use a pure lead and oil than to use a paint containing 25 or 35 per cent of zinc. Zinc can not be considered an adulterant, because it is more expensive than lead. Its use is only on the ground that it gives a harder and more glossy surface—something quite desirable for *inside* work. The zinc-lead-painted houses will look brighter and nicer for a year or so than one covered with pure lead; but the trouble comes when the pigment begins to come off.

HOW THE MICHIGAN ASSOCIATION HELPS ITS MEMBERS.

THE Michigan Bee-keepers' Association is a live one, the members hearing from their efficient secretary, Mr. E. B. Tyrrell, frequently. Crop-report blanks are sent out each season asking for full data concerning the probable crop, especially as to whether the bee-keeper will have honey for sale; and if so, in what shape—also whether he will have bees and beeswax for sale. This information is summarized in the annual booklet in which is a list of the members, the amount of honey they will have for sale, etc.

Not content with this, another booklet is gotten out, giving the names of the honey-buyers and their wants for the season, this list being confidential to members only. A printed slip is sent out about the time this booklet is sent, reading as follows:

Member:—The Executive Board's advice in regard to the minimum price for honey for this year will be mailed you with the booklet as soon as published. In the mean time, ask enough.

E. B. TYRRELL, Sec.

Another slip has to do with brood diseases. The advice given to any member who has a brood disease with which he is not familiar is to write to Dr. E. F. Phillips, asking for a box in which to mail a sample of brood for examination. The box is sent out by the government without charge, and a sample three inches square may be forwarded for a free examination, with instructions for treatment in case a disease is found. The bee-keeper is also advised to get into communication at once with Hon. R. L. Taylor, Lapeer, Mich., the State foul-brood inspector, his services costing nothing, as he is paid by the State.

ARE BEES TRUE HIBERNATORS? WHAT IS HIBERNATION?

ON p. 585 of this issue our old correspondent Mr. J. E. Hand takes issue with us on the proposition that bees are semi-hibernators, and he apparently furnishes evidence in support of his theory; but no less an authority than Entomologist Prof. H. A. Surface gives it as his opinion that some of the bees, during the winter, pass into a condition that approximates true hibernation, or what we may call semi-hibernation. While it is true that bees inside of a cluster are very much alive and active, the bees forming the outside wall (for outdoor wintering) during much of the winter are chilled and inactive. In this condition they will exist for days, taking no food, and are, to all appearances, dead. The bees that we call semi-hibernators are not true hibernators, as we understand it, because they can not exist indefinitely throughout the winter in this condition. There must be a spell of warm weather during which they will revive, take food, and apparently be none the worse for their experience. We have held the theory for some time that the bees inside of the cluster that have been well fed will take the place of those on the outside that have served to form the protection-wall around the general cluster. While this is theory, it serves as a basis for investigation. In the case of bees remaining in a chilled condition we will say that we have proved that they may remain that way for a week or ten days, but not very much longer. Doubtless while they are chilled their vitality is drawing on the reserve food in the intestines. When that is gone, death ensues. Now, no animal, either insect or quadruped, can remain in a condition stiff with cold for a period of ten days unless it is a hibernator of some sort.

Our correspondent asks this question: "Did you ever see an animal or insect in a state of true hibernation? If you have, you will know they are dead so far as the power of motion is concerned." Evidently our correspondent has never run across a hibernating bear in midwinter. His bearship will appear to be dead; but poke him a little, and, presto! he is about as active and furious as he ever is; he will either run or attack. Is it not true that a hibernator, as we understand the term, is always "dead so far as the power of motion is concerned"?

THE FERGUSON UNCAPPING-MACHINE; SOME OF ITS LIMITATIONS AS AT PRESENT DESIGNED.

DURING the last few days we have seen in successful operation the Ferguson uncapping-machine at one of the outyards of E. D. Townsend, located near Clarion, Michigan. This was illustrated and described on pages 404 and 405, July 1st issue of last year. Our readers will remember that this is the machine that uses a series of stationary vertical V-shaped knives, between which the combs pass to remove the cappings. The

only movable thing about the appliance is the comb.

While the machine is not suitable for average conditions in an extracting-yard, yet in our judgment it works very nicely on a certain class of combs. Mr. Townsend says that, when Langstroth frames without spacing projections are placed in a super so that eight of them will just fill a ten-frame body, the machine uncapper will handle them more easily and more rapidly than the uncapping-knife.* But even if it is no more rapid it would certainly be an advantage to use it on such "fat" combs, because the surface of each comb is planed off as smooth as a board.

But having said so much, the machine is very limited in its application. As constructed at the present time it can not be used with Hoffman frames, nor with any self-spacing frames, in fact. There is a possibility, and even a good prospect, that it can be modified so as to take in such frames. The ordinary extracting-combs as one finds them in the bee-yard can not be run through it with any degree of satisfaction. In order to get good results with the machine as at present made, one must have "fat" combs of the unspaced type; and very few bee-keepers in the country can have all of these conditions.

In the hands of a person without experience, the Ferguson (if the combs are right) will do twice or three times as much work, and much better, than that same person could do with an uncapping-knife; but in the case of an old experienced extracted-honey producer, familiar with the art of uncapping with a Bingham knife, the difference in speed, says Mr. Townsend, will not be so noticeable. Indeed, he was of the opinion that he could work almost as fast with a knife as with the machine. But even if no faster he likes it because its work is so perfect.

An ordinary thick-top extracting-frame without projections can be used readily in the machine; but unless the frames, no matter what the type, are spaced wide apart or eight to the ten-frame super, they will be too "lean" to be cleaned up every time with the machine. This will necessitate re-handling with the uncapping-knife. In that case it would be about as quick to use the knife clear through. So far this confirms the experience of the Hutchinson Bros.

We shall have some illustrations a little later that will show the machine in use, and Mr. Townsend will tell his own story; but the editor could not forbear giving the public a little advance information on the present status of an uncapper that gives promise of being more of a success than any thing we have seen.

BEEES AND FRUIT; SOME NEW AND IMPORTANT EVIDENCE FROM DOOLITTLE.

ATTENTION is particularly drawn to the article by G. M. Doolittle, in his regular department, p. 581, on the question of whether bees are the original despoilers of fruit.

Our correspondent shows how birds and mice make the original perforations in the fruit at a time when they would not be observed by any human being ordinarily. The bees coming on later, during the middle hours of the day, receive the blame for making all the mischief.

Some years ago, as our readers will remember, some neighbors of ours complained that our bees were puncturing their grapes, and it certainly looked like it. Later investigation showed that a little bird known as the Cape May warbler (*Dendroica tigrina*) came during the early hours of the morning, and with their sharp beaks made a perforation in every grape on the bunch. Bees coming on later were observed sticking their tongues into the grapes, and, of course, were accused of doing *all* the damage. The case Mr. Doolittle refers to is only one among many others like this, showing how bees are often falsely accused.

While it is true that they are annoying while hovering around broken fruit, it may be said that they are appropriating the juices of a product that was *already* damaged, and which would be unmarketable, even if the bees had never come near it.

There is one point on which we would take issue with our correspondent. Mr. Doolittle seems to be of the opinion that bees *can* puncture fruit, but asserts that they never *do*. All the evidence that has been presented shows, we believe, that bees *can* not. They are not possessed of cutting jaws, like the wasps. That was conclusively proven at the famous Utter trial, where the bees were completely exonerated by the jury. As the government expert, Frank Benton, testified at the time, bees can gnaw a piece of wood or make holes in cloth because they can grab small splinters or fiber in their mandibles and pull them apart, just as we can unravel a rope or a piece of burlap with our fingers; but the skin of any fruit is smooth and without fiber. The fact, then, that bees can make holes in cloth by no means proves that they can cut the skin of a sound grape, a plum, or a peach. Bees have tried repeatedly to make incisions through the skin of fruit, as has been shown repeatedly by various investigators; but that beautiful balance in nature that we see so often has provided against this.

We take the view that they *would* puncture fruit if they *could*; the fact that they *do* not make incisions through the skin of fruit is the best evidence that they *can* not. They will rob, as we know, on the slightest provocation. They will appropriate any thing sweet they can get during a dearth of honey; but no authentic evidence, so far as we know, has as yet been produced showing that bees have ever punctured sound fruit. Many times they apparently are guilty of the act; but extended investigation has *exonerated them in every case*. While God makes one set of animals prey on others, he has not made a bee so that it can prey on perfectly sound fruit.

Stray Straws

By DR. C. C. MILLER, Marengo, Ill.

I LIKE Mr. Fowls' veil, p. 557, but I don't like the extra denim shirt that goes with it. One shirt is hot enough in good bee weather.

W. R. WIGGINS' water-bottle, page 246, is good, but I suspect he will find it better and cheaper to have a tub of water with cork-chips thrown in.

TERRY, *Practical Farmer*, p. 66, accuses Fletcher, the chew-chew man, of eating too fast. Now, isn't that a joke? Fletcher spends 14 minutes at a meal; Terry, 40 to 60.

VIRGIN QUEENS have a passion for tearing holes in queen-cells without reference to what may be in the cells. In a number of cases where queen-cells have been caged I have known the young queen after emerging to dig a hole in the side of her own cell.

F. L. POLLOCK, page 552, takes 50 lbs. extracted white honey as the average yield the country over. Is there any way of knowing whether that is correct? [If a bee-keeper's locality will not average 50 lbs. for a period of ten years, he had better move to pastures new if he can.—ED.]

"USUALLY with a first swarm, the old queen and the swarm leave just before or just about the time that the virgins from the cells begin to hatch," p. 497. Doesn't the first swarm usually issue about the time the first cell is sealed? It may issue a good deal sooner; but I never heard before of one waiting till a virgin was about to emerge.

REPLYING to F. E. Monckton, I don't know of any test by which a bee-keeper can tell beet from cane sugar. Neither do I believe granulated sugar from beets is death to bees in winter. I have fed a few thousand pounds of sugar, and I suppose much of it was beet sugar. So have others, yet I don't know that any one has reported bad results, although in England they insist that only cane sugar should be used. Yet the pure-food law should not allow beet sugar to be sold as cane. [Like Dr. Miller, we have fed many thousands of pounds of both beet and cane sugar; but so far we have failed to detect any difference in favor of one over the other. Some English writers have, however, asserted that cane sugar is far superior to beet.—ED.]

A. I. ROOT, page 570, in the American Revision you will find no mention of the Savior eating honey. But it was an important part of the food of a man of whom the Savior said no greater had been born. [Thank you, doctor, for having reminded me that I have been a little careless in reading my Bible. The first passage I had in mind does not, come to examine it, mention honey; and I find the American Revision has taken out the word "honeycomb" as you state.

But there is, however, a side-reading saying, "Many ancient authorities add 'and a honeycomb.'"—A. I. R.]

TESTING hens is wisely favored, page 505. Dairymen in this region have formed an association for testing their cows. It's easier to test bees than to test hens or cows. They test themselves automatically, and all the bee-keeper has to do is to record the results of the tests. But what good to test hens, cows, or bees, if no advantage of the tests be taken by sorting out and breeding from the best? The hen-men and the cow-men do this, but I'm afraid not many bee-men do. Yet it pays bee-men, probably, as much as it does hen-men and cow-men.

THE DROUTH this year was, *I think*, a little the worst I ever knew. The flow stopped July 10, and pastures became as brown as in winter except spots of green. It looked as if clover might be dead beyond recovery. Aug. 15 came a heavy rain, and gradually the dead surface came to life almost as if by miracle. I've just been out through the pastures, Aug. 31, and I'm not sure I ever knew them more thickly carpeted with clover! Hurrah for next year! [The drouth seems to be broken all over the country; and the best part of it is, white clover is very much in evidence. A summer drouth does not seem to affect the clovers; but a fall drouth, or alternate freezing and thawing during winter, has a disastrous effect. Indications are certainly good for a clover crop next year. We base this statement on an extended trip through Ohio, Pennsylvania, New York, Ontario, and Michigan. We assume that the conditions that prevail in those States prevail also in all other sections where clover grows.—ED.]

AFTER READING about tendency toward extracted rather than comb honey, p. 542, I made a comparison of present prices with those of ten years ago. Taking those quotations which give prices for both kinds of honey, and taking highest figures for each, I find that for Sept. 1, 1910, the price of comb is 91 per cent more than the price of extracted; while for Sept. 1, 1900, it is 100 per cent more. That surprises me a little. I had not supposed extracted was so low in comparison with comb, and I supposed it had gained more than it really has. Another thing is a little surprising. Taking those best prices, it appears that comb honey is only 5½ per cent higher now than it was ten years ago, and extracted only 7¾ per cent higher. In the face of advances in all other lines that's a bit discouraging. [These figures go to support our statement on page 582, but the actual difference is not so great as we supposed. However, it is enough to make it felt. You say it is a bit discouraging that there is not a greater advance in view of the advance in other food stuffs. If you will stop to think, you will see there has been no greater advance in sugars and syrups. If these went up in price we would naturally expect honey to do likewise.—ED.]

Siftings

By J. E. CRANE, Middlebury, Vt.

Virgil Weaver's prediction of the honey crop for 1910 makes interesting reading beside the crop reports that have of late been coming in.

One of the minor advantages of a steam-heated honey-knife is that it shaves off the cappings and does not break the comb down as much as a colder knife.

While it is desirable to let our honey ripen, I believe there is much in what Mr. Greiner says, page 342, June 1, in the value of extracting during the flow to secure a large yield.

That steam uncapping-knife is a decided success. The only fault we find with it is, it is a little heavy at first to one unaccustomed to its use. It certainly slices off the cappings nicely, though.

Fred Wulf's experience in selling honey is of value, page 349, June 1. He says he tries to get the storekeepers started, and get them to place the honey where it will be seen. This is often half the battle.

We have used this season an automobile for outyards, and find it a great convenience. I believe we can take care of one or two more yards of bees in the same time as before, when we depended altogether on horses.

Dr. Miller, page 338, June 1, says he uses, in introducing a queen, a double wire cloth between the colony and the super that has his queen. Is this cloth simply folded double, or is there a space between each layer of cloth? [We understood that there was a space between.—ED.]

Mr. Dadant page 336, June 1, gives in a nutshell the whole truth in regard to the use of new and old foundation. The new is better than the old until the weather or the bees can warm up the old, when there appears to be no difference.

Wesley's remarks concerning the retailer, page 340, June 1, are worth remembering. Surely the more retailers we have the larger profits they must have to live. Suppose there were half as many retail grocers as farmers; we can readily see what enormous prices they would have to charge in order to live.

Reference is made by the editor page 401, July 1, to an editorial by Mr. Hutchinson,

of the *Review*, on the loss of honey by running an extractor by hand rather than by power. Estimating the loss at one pound per ten-frame super, i. e. a crop of 20,000 lbs. the loss would amount to 500 lbs. I believe our own loss has been much greater than that, and another year we mean to use power. Where bee-escapes are used, the honey cools to some extent and the loss is much greater.

The discussion on pages 72 and 73, Feb. 1, on absorbents vs. sealed covers, is one of much interest, showing, it seems to me, that both parties are at least partly right, or that both methods are practical. I have been in the habit, when this subject is discussed, of taking pains to look and see where the opposing parties are located, and, so far as I remember, those who prefer sealed covers live much further south than those who prefer absorbing cushions, with colder winters. Now, it is quite certain that we can winter bees very well, even in this climate, with sealed covers; but my own experience is that we can do better without them. Under sealed covers, I have found the brood-chamber quite too wet in spring to suit me; while with absorbing cushions above, the brood-chamber is dry and clean. In early spring we always find the cushions damp on top, but never on the under side unless from a leaky cover, and this dampness all dries out long before we take the cushions off in May. I much prefer my surplus moisture to be in the cushion rather than in the brood-chamber.

I have no doubt that too much upward ventilation has been given through absorbent cushions. With the mercury at 20° below, there is a strong tendency for the cold air at the entrance of a hive to drive the lighter warm air above the cluster of bees up through the porous cushion. I used to think that clean burlap was the best thing to lay over the frames before putting on cushions, and have made my hands sore rubbing propolis from old cloth before using it, but of late years have found it unnecessary to remove all the propolis. A board laid over part of the brood-chamber before the cushion is laid on works well, or two boards laid on top loosely will allow enough upward ventilation to keep the brood-chamber dry. Where upward ventilation is given through cushions, only a very small entrance is needed. Two inches long by ¼ high is ample, or a ¾-inch hole alone.

Of quite as much importance as warm cushions is a small brood-chamber for small colonies. We are successfully wintering small colonies on four Langstroth frames.

From what you say, Mr. Editor, in footnote, page 121, Feb. 15, I infer that your hive-covers come down close upon the cushion. This may make quite a difference, as in our hives there is quite a chamber above the cushion, and some circulation of air; and as soon as the sun warms up in spring the cushions lose all their moisture without taking them off the hives.

Bee-keeping in the Southwest

By LOUIS SCHOLL, New Braunfels, Texas

TWO EXTREMES.

There's such a thing as having things at extremes in one's apiary work. The writer may claim such to exist in his own, in that one of his assistants hails from far-off Canada while the other is a real Mexican. Both have been hard workers so far. The strangest part about them, however, is that the Canadian likes our hot weather while the Mexican does not.



THE TEXAS HONEY CROP.

Although the Texas crop is a short one this year, it is a safe guess that there is more than half a crop, taking into consideration the entire State. Many localities have been favored with a good crop, while others have fallen short of the average, and still others have had less than even half a crop. As a whole, however, the bee-keepers can not complain. The good prices received will aid quite a little in making up for the shortage.



THE NATIONAL CONVENTION.

Albany, N. Y., is the place of the National Bee-keepers' convention this year, which will be held Oct. 12 and 13. From the notices that have appeared, the prospects are good for a big old-time bee-keepers' meeting. The "carload of bee-keepers" idea is a good one, and it is hoped there will be several of them *en route* to the convention this year. The prospects for a carload from Chicago to Albany are bright, and all those who can join this from the West should take advantage of the opportunity. Let us all hope that this will be one of the best meetings the National has had.



KEEPING MORE BEES.

Specialty is the order of the day to such an extent nowadays that it is not unusual for a great many bee-keepers to fall more and more in line with this trend toward specialism. Editor Hutchinson, of the *Review*, has advocated this matter to a great extent, and it has been bearing fruit. His "keep more bees" has been heard far and wide, and is in many a bee-keeper's mouth. The writer, although working along those very lines years ago, before he read the *Review*, has known of the value of specializing in certain lines of work. It enables one to accomplish more with little more expense, bringing in greater returns with a larger profit. But it takes a man with business get-up to do it. Then it takes a location that will allow it; then a system of management, and the right kind of hives and appliances must be adopted. Some special articles on the latter would be interesting to some of us.

SELLING YOUR OWN CROP.

In one respect our Texas bee-keepers are ahead of their brothers up north. Instead of selling to commission men, as is, apparently, the more general custom in the North, the majority of our extensive bee-keepers sell direct to the retailer or to the consumer. In this way they cut out the middlemen's profit, and this means that this profit goes into their own pocket. Many of our smaller bee-keepers sell all their honey in this way, while a good many others sell to wholesale dealers from whom they get from $\frac{1}{2}$ to $1\frac{1}{2}$ cts. per lb. less than if they sold direct. These latter are men who, in the first place, claim that they are not adapted for selling honey themselves, or else that they do not know how. There is still another class of producers who prefer to sell their entire crop in this way, claiming that they can do better to let the wholesaler do the selling for the difference in the price; but the time is here when more and more are selling direct and at a good price.



HAVE HONEY PRICES ADVANCED?

In my old account-book I have found some figures that have made me think this matter over seriously. Just fifteen years ago our crop was something like 3000 lbs., of which about one-third was section honey and the rest extracted. The sections were sold at an average price of $8\frac{1}{2}$ cts. each, while the extracted was sold in the home market as far as possible, and at the ridiculously low price of 60 cts. a gallon, or 5 cts. per lb. There was so little demand for extracted honey in the markets that we could not ship it out; but not being able to sell all of it in the home market the rest was finally shipped off for $3\frac{1}{4}$ cts. per lb. It was amber honey, but fine in quality. Gradually the price went up to 5 cts. for extracted honey and 9 for section. Later on, section honey was quoted at 11 cts. per lb.; but about this time bulk comb honey came in and very soon took the place of the section honey. It was first sold at an average price of $6\frac{1}{2}$ cts., while the extracted brought 5 in a limited market. From this time the prices of the two kinds of honey have gone up from $\frac{1}{4}$ to $\frac{1}{2}$ ct. a year. Several years ago the reigning prices were 8 cts. for bulk comb and 6 for extracted. This difference of 2 cts. per lb. between the two kinds was established and will remain. To-day 10 cts. is the average price for bulk comb honey, and 8 for extracted. Some who sell direct are realizing even better than this.

Taking it all in all, we in Texas can safely say that the prices of honey have kept pace with other articles of food. The prices mentioned above are for the honey f. o. b. at the bee-keeper's shipping-point, in a wholesale way. The dealer has to pay the freight, add his commission, and then make a profit when selling to his customers. In the retail market our bulk comb honey brings 15 to 18 cts. per lb. at the present time.

Conversations with Doolittle

At Borodino

BEES INJURING FRUIT; WHEN BEES WORK ON FRUIT, WHAT BREAKS THE SKIN IN THE FIRST PLACE?

"I'm in trouble. My neighbor says my bees are eating up all his pears, and stinging the children when they go to pick them up. What shall I do?"

"First, take him some honey and tell him you are very sorry the bees are inconveniencing him."

"But I fear it is too late for that. I told him I had as good right to keep bees as he had to raise pears. And he got mad and swore at me."

"That was where you made a great mistake, and just where very many fail. While, without doubt, you have a perfect right to keep bees, yet the man who is annoyed by them can not see why you should be allowed to keep something which he thinks is destroying his property and keeping the children from gathering it."

"Yes, but he said my bees were eating up his pears. And I told him that bees never make the first start on any fruit—that if he would keep his chickens away from the pears, so they would not go along and take a mouthful or two from each pear, the bees would not touch them at all. He told me I was a liar, and I got hot."

"Well, well. I am very sorry that *you* should have given our pursuit the black eye in that way. If he had told you that he once kept bees, and knew that bees would enlarge an entrance to their hive, and narrow down wood separators by biting them, and that they could bite through a pear, peach, or grape skin just as well, you would have found yourself without a reasonable response."

"Now, while I am free to admit that bees *could* tear open the skin to fruits, I have never known of their so doing, although I was once almost certain that they did do it. Some twenty years ago there came a dearth of nectar at just the time a much-prized kind of pear was ripe. I had no chickens, yet the bees fairly swarmed on the pears on the ground. On a closer inspection I found the bees were also at work on those in the tree; but I noted that, instead of the skin being gnawed so that the bees could work through it, each pear on which they worked had a deep hole going well down toward the center. This I knew was not the work of the bees, so I got up as soon as there was any light the next morning and stationed myself in a little thicket near the tree. As soon as I could see, an oriole or golden robin, as they are called here, came into the tree; then another and another, till there were some ten or twelve of them at work on those pears. And they did not seem satis-

fied to stay at any one pear for any length of time, but, taking a mouthful or two out of one, they would go to another, and so on. During the day not a bird of this kind was seen about the tree; and had it not been for my early morning watch I should have felt that the bees were the real enemy of my fruit."

"You spoke of grapes. Another neighbor often accuses my bees of destroying his grapes."

"Bees and grapes have been discussed for ages, almost; and I have always claimed that bees *could* bite through a grape-skin if they set out to do so. At certain times during the past I have been almost convinced that they really did do it. I grow eight different kinds of grapes, among which is the variety known as the Worden. This is a large black grape, but not as sweet as some of my other kinds. After a little I noticed that the bees were at work on these Wordens, but on no other kinds. Two days after they had commenced work on the grapes, on passing by these vines I found the bees fairly swarming on the bunches next to the wood-shed, which was partly filled with wood. As this shed broke the wind it was much warmer here than at the other end of the vines, and I thought that this was why the bees worked here. The skin of the grapes on the upper side of the bunches was badly mangled, and in many cases there were two and even three bees inside the skins sucking up the juices. I went to Mr. Clark's Wordens, but not a bee nor an injured grape was to be seen. Every thing pointed to the bees till the next day. On returning I picked a pan of the Worden grapes, fearing the bees would ruin all of them, and set this pan in the wood-shed. Imagine my surprise to find all of the upper grapes in that pan with skins mangled the same as those on the bunches the bees were at work on, when I went to the wood-shed about 10 A.M. for an armful of wood. On a close examination I found mouse-droppings scattered about among the grapes. I now had the clue to the matter, as I knew that, in all the cases which had come under my notice, the bees had worked on the grapes which were next to some building, pile of wood, stone, or rubbish of some kind which would harbor mice. I took the pan of grapes from the shed, removed every bunch from the vines on which the bees were at work, and put them in the house. The bees hovered about the other bunches and crawled over the grapes for nearly an hour, growing less and less, till at one o'clock, the time they were the thickest the day before, all the bees had left, only a stray one, now and then, hovering about. The next morning I was at the Worden vines before any bees had thought of getting out, and found some twenty bunches, nearest the woodshed, with the grapes having their skins all mangled like those picked off the day before. I left them to see the result, and the bees swarmed on them as soon as the sun was shining."

General Correspondence

BREEDING ENTIRELY FROM ONE QUEEN IN A SEASON.

Do we Require an Island Apiary for Breeding
the Best Queens?

BY SAMUEL SIMMINS.

In my 1888 edition, and in each succeeding issue of my book, I stated that "unrestricted or indiscriminate swarming is totally at variance with all true principles of breeding. To obtain the best results it is absolutely necessary that all queens be carefully bred from the best stock only."

I believe most advanced bee-keepers are now agreed upon these points; but many do not follow the plan set out in the last sentence. It will be observed that all queens are to be reared for the season from one stock, or, to be more explicit, from just one queen only. In my own practice I go further than this, for, while breeding the whole of my queens for any one season from one selected queen only, I also rear my drones for the same period from the daughter or granddaughter of one other queen which was used for producing the queens in some preceding year. In this way I have been able to register a pedigree strain for the last ten years through the male parentage as well as the descent of the queen-rearing mothers, thus securing all the most desirable traits in a fixed strain of honey-gatherers.

Thus, if once in two or three years I find one among a number imported has some very desirable trait worth appropriating she is used for rearing queens one year, and in succeeding years her granddaughter, whose parent and grandparent were also mated to my pedigree drones, will carry the combined qualities forward in the male line. In occasionally bringing in one of my own home-reared queens, already in the line of pedigree stock, as a queen-mother for the season, she has been under close observation for at least the whole of one season, or it may be between two and three seasons, maintaining certain good qualities without variation. The practice of allowing bees to swarm, and leaving their own selection of young queens to follow, is as bad as that of allowing stocks to supersede queens at their own sweet will. Moreover, in the average apiary drones are allowed to be reared in a number of stocks, while queens are bred from several mothers during the same season. No wonder, then, that the apiarist, whether he be a honey-producer or queen-rearer, is pretty much at a standstill, or finds his stocks sometimes just a little better, or more often a great deal worse, than the average.

I am able to state from long experience that there is no hope of securing genuine

progress as regards standard breeding stock, and hence, for all purposes, where more than one queen-mother is used for the season, or more than one other queen for drones during the same year. Furthermore, that no fixed strain, having all-round desirable traits, will be secured where the pedigree is not definitely registered through the drone-mother succession, even more than by the registration of the queen mothers, though that, of course, can not be neglected.

AIDS TO ISOLATION.

Now, is isolation on some island, or within some large unoccupied area, really necessary? The unoccupied locality might be difficult to find, or, if found, would perhaps be inconveniently situated; while a small island would probably be equally inconvenient, possibly a very windy spot, and at the same time the bees would most likely require feeding all the time with both syrup and artificial pollen. This process would not only be costly, but certainly productive of negative results.

But as a matter of fact, where the queen-rearer has determined to use only one queen for the males, and one for producing his queens to mate with those drones, then I am assured he has already started on the right road—toward isolation. That is his first step, and thereafter he will know just what drones his queens have mated with, as I have already proved in my own experience. Presuming the rearer is using Italians he will produce drones quite different from any in the neighborhood; and if his selection has been made on the right lines, any ordinary Italians or mongrel drones that may exist near him will not be so strong on the wing as his own, and therefore he will have but a small proportion of mismated queens, and certainly not enough to account for the expense or inconvenience of setting up an isolated or island apiary.

DEFINITE CONTROL AND SELECTION OF DRONES.

But suppose I told you I had already a method of actually controlling the act of mating, do you think I would try to mate a queen to just one selected drone, or one in ten, or even one in twenty? Does the reader not imagine that the very drone the apiarist would himself pick out might be less fit, less hardy, less virile, than fifty others? No! I would allow the queen to have the choice from at least fifty to one hundred males in full flight (from my selected drone mother), when the chances are she would mate with the best—the most hardy, strong-winged, and fully virile male in fifty or one hundred, as the case might be.

I do not imply that, in ordinary circumstances, the breeder will leave for open flight the whole of the drones his best queen may be able to produce at the expense of normal stores; but that he will constantly be weeding out such as do not appear to him to conform to the type he is striving to maintain.

With regard to the definite control of fertilization, I may say this has been the dream of my many years of experimental and practical bee culture. Fertilization by hand and mechanical means I have tried with untiring patience, but without much success hitherto; and in years gone by the process was repeatedly conducted at my apiary in the presence of the late F. R. Cheshire, who was able to report a partial success resulting from one of my experiments.

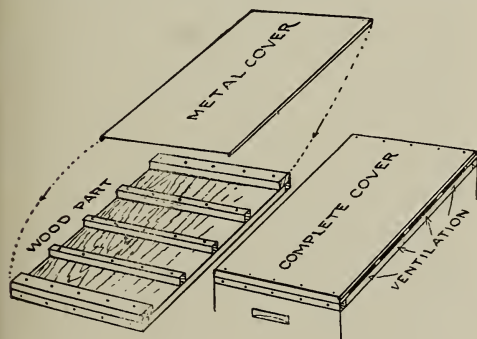
The flight of drones and queens in confined areas has also given me much unprofitable occupation, except that such experiments may at last have led me to the real solution of the whole problem, as I can now see quite clearly just why all such trials have been doomed to failure. I hope to refer again to this most interesting subject at no distant date.

Heathfield, Sussex, Eng., Dec. 20, 1909.

A FLAT, METAL-ROOFED, VENTILATED COVER.

BY WESLEY FOSTER.

The needs that brought about the design of this cover were these: A cover that could be made at the local planing-mill; one that would be cheaper than those regular styles manufactured; one the wind could not blow off easily, and a cover that would turn the rain, protecting the sections during the heaviest rainstorms. Wooden covers warp



and check so much in this climate that nothing but a metal-roofed cover will stand any term of years.

This cover consists of ten pieces—nine of wood and one of sheet tin, iron, or galvanized iron to shed the water. First there are the two main cover-boards, an inch and a half shorter than the length of the hive, and their combined width just the width of the hive. Then there are two strips $\frac{3}{4}$ inch wide, each, that are nailed across the ends, making this cover-board with strips just the length of the hive. Next we have two strips of inch stuff two inches wide and the length of the width of the hive. These are nailed on the top at each end into the ends of the cover-boards. These top end-strips, with

the $\frac{3}{4}$ -inch end strips underneath, make the ends doubly strong, as they are nailed across each other, giving almost the strength of a dovetailed corner. The three pieces left are $\frac{1}{2}$ inch by one inch, and the length of the width of the hive. These are nailed across equidistant between the end-strips on the top. When these five strips are all nailed on, the metal roof of tin or galvanized iron, folded over each side $\frac{1}{2}$ inch, is nailed on. The metal is cut just the length of the hive, and does not fold over the ends. These five strips raise the cover an inch from the wood, giving this much air-space; and if upward ventilation is wanted, a hole, say one inch by two, may be cut in the center of the wood part of the cover, and a piece of wire cloth tacked over. This will let any moisture from the cluster pass off. The metal folding over the side but $\frac{1}{2}$ inch gives a half-inch space along the side for the free circulation of air.

As to the cost, the lumber cost us 9 cents at one time and 11 cents the next. I think we shall have to figure on 11 cents hereafter. The galvanized iron costs 10 to 12 cents, already cut to size and folded ready for tacking on. By using a thin quality of plain black sheet iron the cost for the metal does not exceed three or four cents.

Mr. Oliver Foster is the designer of this cover, and makes it very nearly the same dimensions I have given. He uses a thin grade of black sheet iron, and merely curls the edges of the iron, so as not to leave a sharp edge that will cut one's hands. This gives the full inch or $\frac{1}{2}$ -inch open space clear along the side. We prefer the galvanized iron, as it is heavier, and one can sit down on the cover without bending the metal. The galvanized iron does not need painting, but will be somewhat cooler if a coat or two of paint is applied.

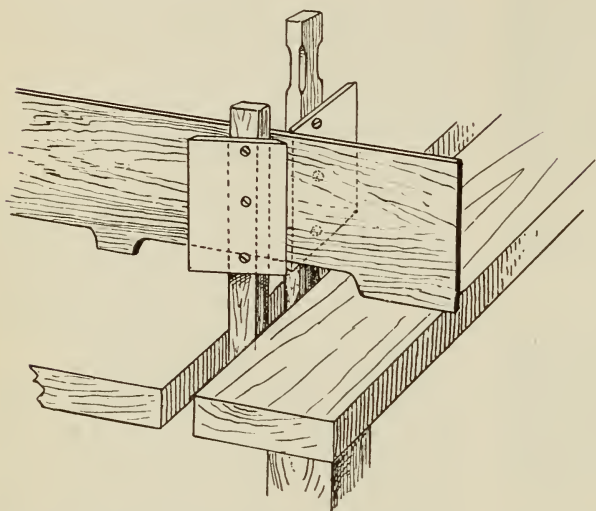
We like these covers very much, and have 200 of them in use, and shall have more as we need them, and as the other kinds we have wear out.

A SEPARATOR CLEANER AND SCRAPER.

We always cleaned our separators with an ordinary hive-scraper until we made this machine. A large sheet of tin was nailed on the top of our scraping-table, and the separators laid down flat on this tin when being scraped. The result was that many of the scalloped edges broke off in the operation, and the muscular effort required became very tiring when scraping was done by the thousand.

This little machine does the work in excellent shape if it is made right, adjusted carefully, and the operator understands it. The blades are made from an old saw, and are sharpened rather blunt, though not square, on the cutting edge. One of the blades is fastened solid, and the other blade hinges on to this stationary one. The bottoms of the blades come together within $\frac{1}{12}$ inch, just the thickness of a separator. The blades are set to each other at an angle of 45 degrees, giving a strong and sure cutting power when the blades are brought together

with the hand lever, which is attached to the hinged blade. We tried a spring for holding the blades against the separator, but found that some needed more pressure in cleaning than others, and so adopted the hand-lever plan, which works very satisfactorily. The separators are fed into the machine against the 45-degree angle of the blades, and the pressure on the hand lever is applied when drawing the separator through between the blades. This cuts the burr combs and propolis off better than any method we ever used before.



Two operators are required—one to feed and pull the separators through, and one to work the hand lever; but with this little machine we can do at least twice the work that two men would do with hand scrapers.

We made several of these outfits before we got one that would work well under all circumstances. The machine requires a little practice before one can do good work, but it saves much muscular effort, cleans the wood well, and does not break the scallops as often as when working by hand.

Boulder, Col.

A SAFE PLAN FOR INTRODUCING WITHOUT WASTING MUCH TIME.

Forming a Nucleus Beside the Colony whose Queen is to be Replaced and Running the New Queen Directly into the Nucleus.

BY W. L. COUPER.

Of methods of queen introduction there is no end. They all seem to work all right—sometimes. That none of them are without fault seems to me proven by the fact that, every year, new schemes or old schemes renewed are put forward by enthusiastic experimenters. Of course, there is the one infallible way given in all text-books; but it

entails too much work for use except in the case of a very valuable queen. Alexander's method, by which he used to introduce either one or a number of queens to the same colony, is open to the same objection. Probably the great majority of bee-keepers use the ordinary method printed on queen-cages; but if their experience is the same as mine they lose a considerable number of queens.

There is a well-known method of stopping robbing in spring by placing the robber colony on the stand of the robbed, and *vice versa*. The robbed colony is almost certain to

be weak, and it will receive practically all the field bees of the robbers. Why don't they kill the queen that is strange to them? I don't know; but the fact remains that they accept the situation quite tranquilly. On this fact, and the other fact that it is quite simple to introduce a queen to a properly made nucleus, depend my method of introduction, which I call the substitution method.

To make nuclei for this purpose, frames of brood should be placed above an excluder for nine or ten days. Take four of these frames and place in a hive, filling up with empty combs. Make sure there are no queen-cells in the brood-combs. The morning of a fine day is the best time to do this, as the field bees will return to their old stand. Place this nucleus-hive beside the one whose queen is to be replaced. In the evening run your new queen in at the entrance of the nucleus-hive. She will be quite safe. As soon as she is laying, her hive can be placed on the stand of the one containing the useless queen. This should be done in the evening, so that the field bees come to their new queen gradually the next day.

The experienced bee-keeper will have no difficulty in disposing of the frames of brood when he has killed the old queen. There is always a place for them. To the beginner I suggest that he can employ these frames for strengthening weak colonies, for making fresh nuclei by placing them above an excluder, or he can return some of them to the colony with the new queen.

An objection that is sure to be raised to this plan is that it takes too much time and work. Let us look into the thing. By the ordinary method you have to hunt up and kill your old queen. In a full colony, that is sometimes quite a job. I think that, on the average, I could make a nucleus quite as quick. Substituting the nucleus for the full colony, and changing the supers, takes only a minute or two. In either case you will have to look the colony over in a few days to see if the queen-bee has been accepted; but by my method, if she should have been killed you can return the old ones. I

do not claim this way to be infallible. Bees delight in breaking rules; but I have had no failures yet.

Cannington Manor, Sask., Can.

TEN-FRAME HIVE NOT WIDE ENOUGH FOR TEN FRAMES.

Sectional Hives not a Success.

BY S. KING CLOVER.

I notice that the ten-frame hive is being discussed. I like the ten-frame Langstroth hive of the regular depth, or even deeper. This hive as now constructed is somewhat faulty, not having been brought up to the high state of perfection that the eight-frame L. is. The fault is that it is not wide enough to permit the proper handling of the frames after being coated with propolis at contact points, although I persistently scrape this off. The ten-frame L. has no provision for a follower, and the space is too great for nine frames and a follower. The extra room in the eight-frame L. hive for followers, etc., is about right. Too often have I tried to remove the outside frames, only to find that they were too close to the hive walls, and that the bees had built them fast with brace-combs or propolis. Another defect, on account of room, is that the bees neglect these outside combs and rear little or no brood in them. I am compelled, in removing frames from the brood-nest, to dive in wherever it looks as though I can get a comb out easily, and I do it in fear and trembling lest I roll a valuable queen between the frames. The ten-frame L., if perfected, will be about as near perfection in hive construction as it is possible to obtain. In calculating inner width I would first tack a piece of thick section stuff, $\frac{1}{8}$ or $\frac{3}{16}$ thick, by $\frac{1}{2} \times 3$ or 4 in. long to the side of the hive for the V and square edges to strike against, insuring a sufficient bee-space at all times on that side of the hive. Then I would fill the hives with frames and add a trifle ($\frac{1}{8}$ inch) for propolis that seems always to be with us, and sufficient room for a follower. I have tried the shallow or sectional-brood-chamber hives for two seasons, both as hive-bodies and extracting-supers, but I can not get the good big colonies in them that I can in either the eight-frame Langstroth-Danzenbaker or ten-frame L. hives, nor results.

I can not sit still when I read these articles advocating the sectional-brood-chamber hive. I have little fear for the experienced bee-keeper; but I do feel for the beginner and those not so far up the ladder of experience as they may be. I always thought that the old Gallup frame, $11\frac{1}{4} \times 11\frac{1}{4}$, turned out more bees, bigger swarms, stronger colonies, in less time than any other frame it has been my lot to handle, and it is square. Then when it comes to extracting shallow frames a four or five ton flow will keep one busy about three weeks. However, I have naught but kindness for the ad-

vocates of the shallow frame and divisible-brood-chamber hive.

By the way, can we not have something on the line of a large upholstering tack, or something of that nature, that can be driven through the bottom of the end-bar to help keep the frame square, and prevent killing bees when we stand a hive on end? An ordinary staple will not do, as it will split the wood or be forced clear though it. Something with a round head $\frac{3}{8}$ or $\frac{1}{2}$ inch thick, with a central nail or brad, which can be clinched inside is what is needed.

Mabton, Wash., May 5.

[One of our readers has sent us a stamped "button" that looks as though it might be a good thing to use in this way. We will have an illustration of it in an early issue. —ED.]

ARE BEES SEMI-HIBERNATORS?

Some Evidence to Prove that they are Not in the Real Sense of the Word.

BY J. E. HAND.

Mr. Editor:—Your theory, page 35, Jan. 15, that bees are semi-hibernators, seems at first sight quite reasonable; however, when we consider the full meaning of the word "hibernate," evidence is lacking to prove that bees are in any sense true hibernators or even semi-hibernators. The fact that bees contract down to a small bunch for mutual warmth is a direct contradiction of the hibernation theory, for hibernation and heat are not analogous terms.

Your statement that bees take no food while in this condition is only guessing, and would seem to be contradicted by the fact that bees wintered out of doors in unprotected hives consume twice as much stores as when wintered in a warm cellar. Did you ever see an animal or insect in a state of true hibernation? If you have you will know that they are dead so far as power of motion is concerned; and that while in this cataleptic condition frost and cold seem to have no bad effect upon them. In this condition they pass the entire winter without taking food and awaken at the approach of a certain temperature of heat and by no other means.

It is true that an isolated bee will become stiffened with cold at a temperature of 40° on a cloudy day; however, while in this condition I have not found that they are able to abstain from taking food any longer than when in a normal condition, nor are they able to survive a temperature below the freezing-point for even a few hours. If the entire cluster falls into this helpless condition their doom is sealed unless they are subjected to a higher temperature before they starve or freeze to death. If further proof is wanted, just poke into the winter cluster of a colony of cross hybrids on a cold day and you will be in position to receive evidence of a convincing nature that hy-

brids, at least, are very much awake *all* the time.

I believe the instinct of bees to huddle together for mutual protection against cold is a fruitful source for the development of scientific methods of wintering bees along new lines, and I am now conducting experiments along lines touched upon by Dr. Miller's Straws, p. 36, and your reply to it. Dr. M. is right about combs full of honey and a big space below the frames. The editor is also right in thinking the frames should be shallow. It has not yet been proven to my entire satisfaction that bees will winter better in frames 12 in. deep with empty cells for a winter-nest than they will upon combs of solidly capped honey 5 in. deep with a space of 5 in. below them, either for outdoor or indoor wintering. It begins to look as though the successful wintering of the future will be conducted along this line.

Birmingham, Ohio.

PAINTING HIVES.

The Bees Paint the Inside; Man should Paint the Outside.

BY DR. A. F. BONNEY.

Once upon a time, when I knew a little less about bee-keeping than I now do, I wrote the editor of GLEANINGS asking him if I should paint the inside of my hives. His reply was that the bees would attend to this, and I think he was quite right, for I have been looking over some hives which have been in use one and more years, and I find them coated inside with wax or propolis, or both, until, I should judge, they are utterly impervious to moisture.

This is to be expected, for I have in time past noticed that the cavities in trees from which I have taken bees were plastered with waterproofing; and if it had not been done, the bees would have had a cold wet place in which to live, instead of the warm dry place; for the tree-nest is warm, and it is dry, and, to all intents and purposes, the hive is too, although, having a flat top, the moisture will not so easily run down and out as from the tree cavity. That the inside of the hive gets wet, and even moldy, is more the fault of the shape than any thing else; for, given a chance, the water would fall and work its way out, just as the carbon dioxide does, evolved in considerable quantities by the bees in the act of breathing.

Such being the case, that the inside of the hive is waterproof, what becomes of the argument that, to paint a hive, makes it wetter inside? There is not a bit of doubt that a white hive, ventilated at all, will in summer be many degrees cooler than one alongside of it not painted; for, the darker the wood the more heat there will be absorbed; and as to cold weather, the color of the hive has little to do with inside heat; for if a single-walled hive is left on a summer stand it will be protected; and if cellared it needs none.

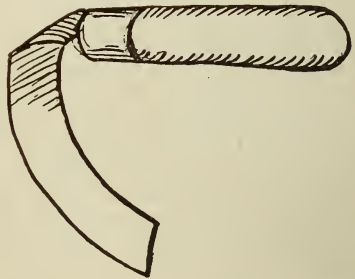
If a chaff hive is used, color will have no effect excepting, possibly, black, which might cause enough heat to be absorbed to raise the inside temperature, though I doubt it.

If Dr. Miller or any one else has unpainted hives, being financially able to paint them, it shows that his bump of beauty-love is undeveloped; for a hive is like a house—much better looking for a couple of coats of nice white paint. I came near saying white-lead paint, for that is the only thing suitable to use, although, having been saponified by the action of the atmosphere, it will rub off in time, which, to my notion, is better than having it peel off, as the zinc-lead heavy spar compounds will. A painted hive is like a painted house. It looks nicer, is cooler in summer, will last twice as long for the paint, and the lumber is not so apt to warp. To my notion there is every argument in the world in favor of painting hives, and not one against it, except here and there an example of individual taste. For the sake of the elevating tendency of beauty, if for no other reason, let us paint our hives.

Buck Grove, Ia.

A Short Cut with Half-filled Sections.

The clover season closed this year abruptly, owing to the drouth, and the result is I have a large number of half-filled sections to be disposed of. It is useless to put them back on to be finished, for if the bees touch them at all it is only to round them off before they are filled out. It is not judicious to put them away unsealed or into jars, for fear some will sour. I use frames for balts instead of sections, *a la* Townsend, because when old sections are used the bees thicken the comb before refilling, making an unsalable section. To take out the sections and replace them in specially made frames to be extracted is a long tedious job; so, being inclined to save labor, I took some lath, smoothed them a little with a block plane, cut lengths the same as the bottom of the section-holders, and was ready to work,



Taking a frame filled with sections I tacked a lath over the top, squeezing the end pieces together as I drove the last nail, each being put in about half its length. Then, uncapping with a special knife, I ran them through the extractor, then removed the bar to be applied to another holder. The sections were put into a box as fast as extracted, and set out to the bees.

I append a drawing of the knife I use. It is a paring-knife with a five-inch blade. One bent at right angles might do as well; but this one serves my purpose. There is wax and propolis enough on the sections to keep them from falling out of the section-holder, held as they are by the bar.

I use the Danzenbaker hive and supers. I fancy a little ingenuity will enable one to adapt this plan to any kind of section which is held in a holder.

Buck Grove, Iowa.

A. F. BONNEY.

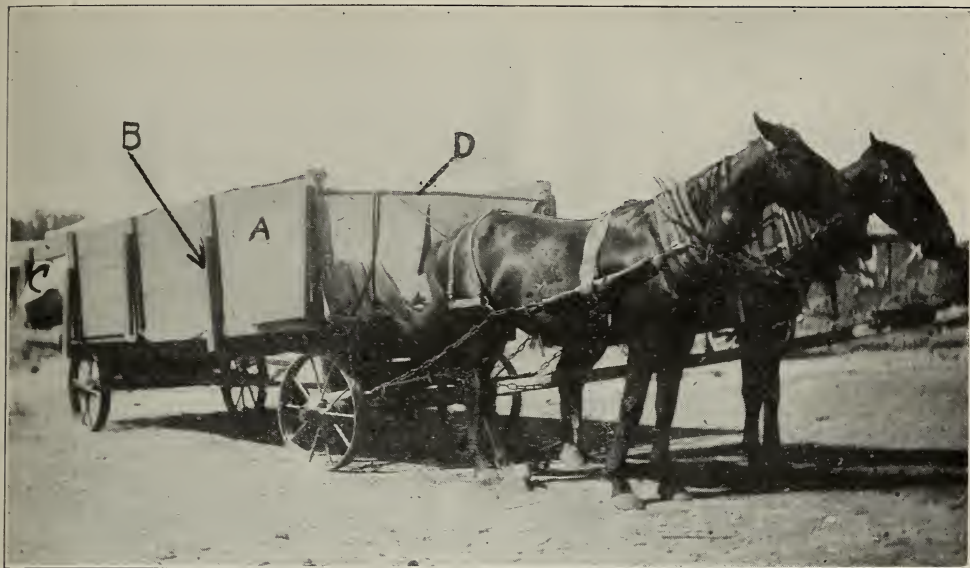


FIG. 1.—COLLAPSIBLE HONEY-HOUSE READY TO MOVE.

A is a hinged apron, 3 x 16 ft., which lets down by loosening the cross-bar D and a corresponding one behind. B is one of the five hinged legs which automatically swing out to form supports for the apron A when it is let down to form part of the floor of the house. C is an opening in the apron, which holds the gravity strainer by a rim around the top of it. Two 850-lb. ponies can pull this outfit over almost any road. The outfit contains a complete power-driven outfit for extracting honey on a large scale. See Fig. 3. Two men in five minutes can raise this outfit into a 12 x 16-foot house with eight-foot walls. The running-gear that the wagon is built on costs \$35.00 laid down in New Mexico. Planned and built by O. B. Metcalfe.



FIG. 2.—COLLAPSIBLE HONEY-HOUSE READY FOR USE.

A is a screen window 10 x 6 ft. Another, the same size, on the opposite side, gives good ventilation, and attracts robbers so they bother but little around the doors. B is the main entrance to the house. It is of 12-oz. duck, as are all the rest of the walls except the screen windows. C is a small trapdoor where the honey is passed in. A canvas flap closes it. The iron pins, as shown at E, are driven into the removable uprights. These uprights are lifted out of a half-inch socket at the bottom, and pulled out of the loops at the top, leaving the whole thing collapsed ready for the two aprons to be lifted up and fastened. Two men can do this in five minutes, and then it is ready to drive off. This honey-house on wheels has a floor space of 12 x 16 ft., and walls as high as desired. The walls shown are 8-ft. high.

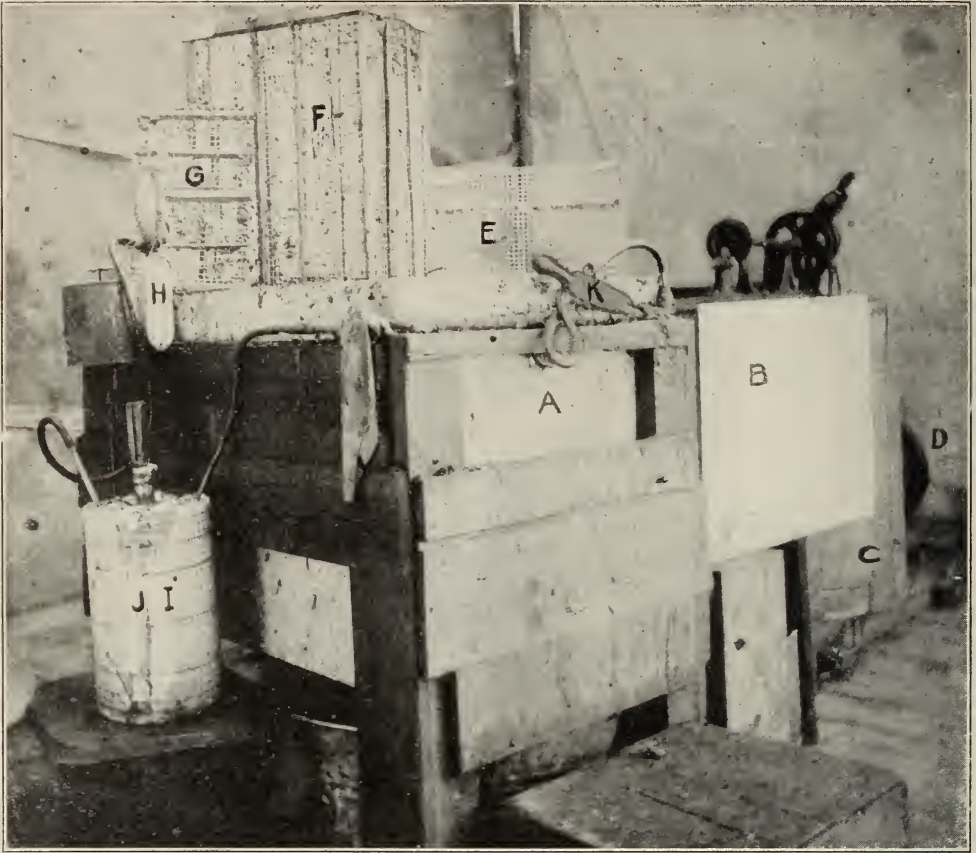


FIG. 3.—VIEW INSIDE THE HONEY-HOUSE.

A, uncapping-can (see page 515, Aug. 15); B, comb-box; C, 8-frame extractor; D, fly-wheel of 2 H. P. two-cycle Detroit engine; E, screen bottom for comb-box B; F, one of the four baskets which exactly fill uncapping-can A, and allow drainage in all directions; G, sliding bottom of basket, left loose to shove out uncappings when the basket is taken out and inverted; I, small boiler with six one-inch flues to generate steam for the steam-heated uncapping-knives H, K; J, water-gauge on boiler. This cut shows an outfit with which three men can uncap and extract medium thick honey at the rate of 1200 lbs. per hour.

A LARGE HONEY-HOUSE ON WHEELS, FOR OUT-APIARY WORK.

Extracting Honey on a Wagon at the Rate of 1200 lbs. per Hour; the Gravity Strainer Not a Success for Rapid Work.

BY O. B. METCALFE.

The honey-house on wheels, shown in the accompanying illustrations, seems to me to be a practical outfit for a large honey-producer with several out-apiaries. We have used it this season, and would not go back to the plan of unloading and loading the outfit at every yard.

Fig. 1 shows an opening in the apron for a gravity strainer; but we did not find the gravity strainer satisfactory for our work. If any one is figuring on making a gravity strainer I think he would do well to set out a tank of his honey, and time it to see how long it takes to settle. If it takes ten hours to settle as clear as he wants it, and he can

use one that holds as much honey as his extractor will throw running all the time in ten hours, it will work. Otherwise the current will be so swift that it will carry the trash with it clear to the gate. That is, if I am right in my understanding of the method, the tank must be large enough so that a certain amount of honey coming from the extractor must take as long to get to the gate as it would have taken it to settle. I mention this because, if I had read a similar statement, it would have saved me seven dollars and a lot of time.

A SPECIAL BOILER FOR THE STEAM-KNIFE.

We now endorse the steam-heated uncapping-knife, but we could not use it for fast work until I got to work and made a regular boiler with flues which would hold in a pressure of perhaps two pounds. On trying to use it at first we used a steam-tight bucket without flues on a single-hole-burner gasoline-stove, but could not get heat enough to carry the knife quickly through a solid

capped comb of thick honey. The boiler shown in Fig. 3 has an asbestos covering to hold heat, and the one-inch flues which come through it from the bottom to the top are partly covered with strips of tin so the heat from the gasoline-stove is forced to spread around a little and enter all the tubes. The water-gauge I put on after the boiler went dry once, and the solder was melted. The boiler is made of No. 40 galvanized iron with galvanized iron pipe soldered in it for flues. It consumes nearly a gallon of water per hour; and if an air-cooled engine were used the boiler would have to be larger than the two-gallon size, for in our case we can dip hot water from the engine-tank to fill it, and within a minute or so it is boiling again. Refilled with cold water it would take it about ten minutes to boil again. This boiler does not sit flat on the stove, but has the bottom soldered in it about $1\frac{1}{2}$ inches from the bottom to catch the heat so it will not spread out and come up around the outside.

Mesilla Park, N. M., Aug. 6.

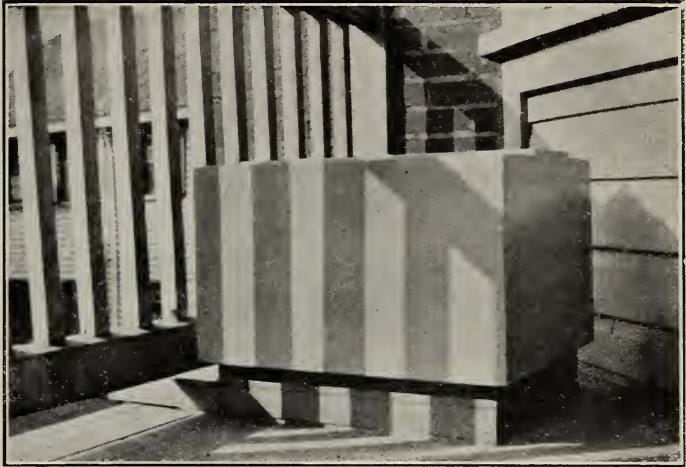


FIG. 1.—A COLONY PACKED FOR WINTER ON THE BACK PORCH OF A DWELLING-HOUSE IN PITTSBURG.

A BACK-PORCH COLONY IN PITTSBURG.

BY R. M. M'CULLOUGH.

The first illustration shows my colony as it went into winter quarters last fall. Over the brood-chamber I placed an escape-board with the rim side down, the escape being removed and the hole closed with a suitable block. A super filled with chaff was placed over this, and a deep telescoping cover placed over all with padded sticks at the

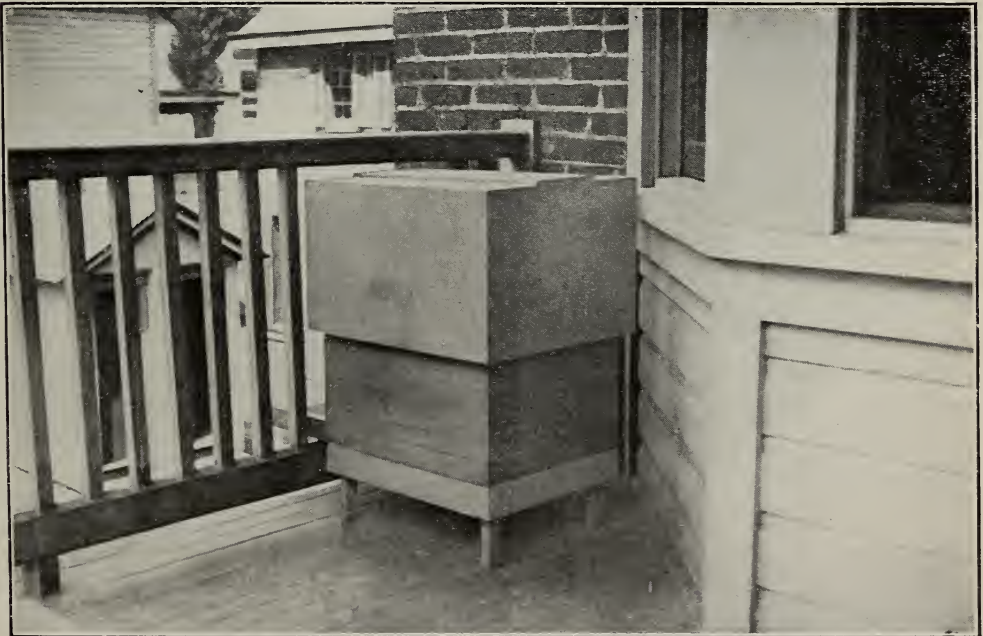


FIG. 2.—THE HIVE RAISED TO PERMIT THE ALIGHTING-BOARD TO EXTEND OVER THE PORCH RAILING.



FIG. 1.—PERCY ORTON'S CAPPING-MELTER READY FOR USE.

lower edges, making every thing tight, and leaving a $\frac{1}{2}$ -inch dead-air space all around the hive. In spite of the fact that there was a great loss of bees in this vicinity last winter, this colony lost by actual count 140 bees in December, 125 in January, 134 in February.

This spring I placed the hive on a stand, as shown in the second view, as the bees were annoyed by the bottom of the porch railing when the hive was located as in the first view. At this writing, July 15, there are two supers on, the bees already working nicely in the second super.

Pittsburg, Pa.

HUNTING COLONIES IN TREES.

Transferring from Trees into Modern Hives.

BY BERT ROBERTS.

Hunting large game in the mountains is great sport; but hunting bees is ahead of all other kinds of hunting. I wish that some of the readers might be here to go with me, for it seems as though every tree having a hole in it contained a colony of bees. They are usually found in oak-trees from ten to

forty feet from the ground. I never line bees with a bee-box. I just go through the woods and find the bees flying in and out of the trees. I have run across as many as four trees in half a day.

When a tree is once found I carry a hive, some pails, and a smoker to the spot, and then proceed to climb the tree by nailing strips of boards on the trunk so as to form a ladder. When the opening is reached I build a platform by nailing a board four or five feet long on each side of the tree with braces from the ends down to the trunk. Over these boards I lay pieces of strong bark or more boards. When this is done I lower a light rope for an attendant to tie on a smoker, an ax, and the pails. I blow a very little smoke in at the entrance, and begin chopping. When the cavity is reached I use a little more smoke, and then with a long-bladed knife cut the combs loose from

the tree and remove them, brushing the bees back in the cavity. I usually put the honey in one pail and the brood-combs in another. After the combs are all out of the tree I pull the hive up to the platform and transfer the brood-combs into the frames, holding them there by means of sticks on each side of the frames, the tops and bottoms of the sticks being tied together to hold the combs in place. The hive is then set on the platform, near the opening in the tree. After washing the honey and dirt off my hands I carefully reach into the cluster and take the bees out by the handful and dump them on to the alighting-board of the hive. A paddle or large spoon might be used for this purpose, but there would be more danger of hurting the bees. They find their own brood in the hive, and run in at the entrance like sheep into a barn.

The few remaining bees in the tree may be smoked out and then the cavity plugged with moss. Every thing may now be left until evening, and then the hive carried home and placed on the stand that it is to occupy.

The native bees of Oregon are fair-sized and brown in color, and are not so likely to sting as the natives of Michigan.

Sheridan, Oregon.

ORTON'S CAPPING-MELTER.

Made from a Single Sheet of Galvanized Roofing Iron.

BY PERCY ORTON.

The three illustrations show a capping-melter that I have been using for two seasons. It is made from one whole sheet of galvanized iron roofing. I cut the sheet, which was 96 inches long, in two pieces of equal length, and made two pans 18×40 inches. The upper pan, as seen in Fig. 3, slips into the lower one, and projects about two inches beyond the lower pan as an outlet for the honey and wax, the lower pan being soldered to the upper one at this end.

Fig. 2 shows that, by projecting the upper pan beyond the lower one, I get a space large enough at the back end of the melter to hold two honey-knives to heat in the hot water of the lower pan.

Fig. 1 shows the melter in running condition, and my son, Master Darius Orton, age 9, who is a very good helper for his age.

This melter will hold 30 Hoffman frames, and is useful in warming up combs of honey in cold weather. Two uncappers can

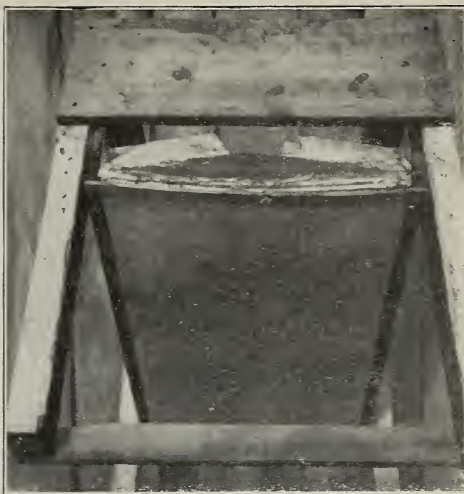


FIG. 3.—UNDER VIEW OF CAPPING-MELTER, SHOWING THE UPPER PAN PROJECTING BEYOND THE LOWER ONE.

work, and the machine will take care of the cappings; or if one does not care to extract more than 50 hives a day it will hold the cappings so that they may drain over night.

The cost of the galvanized iron, solder, and lumber, was about \$1.75, and I did the work myself. I find after two seasons' use it is a very handy machine. It does not injure the honey, and produces very fine wax.

Northampton, N. Y.

[Reference to the illustrations on pages 555, 556, Sept. 1, shows that Mr. Orton, two years ago, hit upon almost the identical construction of melter which we have been using this summer. We can endorse all that he says.—Ed.]

NEW COMBS NOT NEEDED FOR THE PRODUCTION OF FINE LIGHT HONEY.

BY W. H. RAGAN.

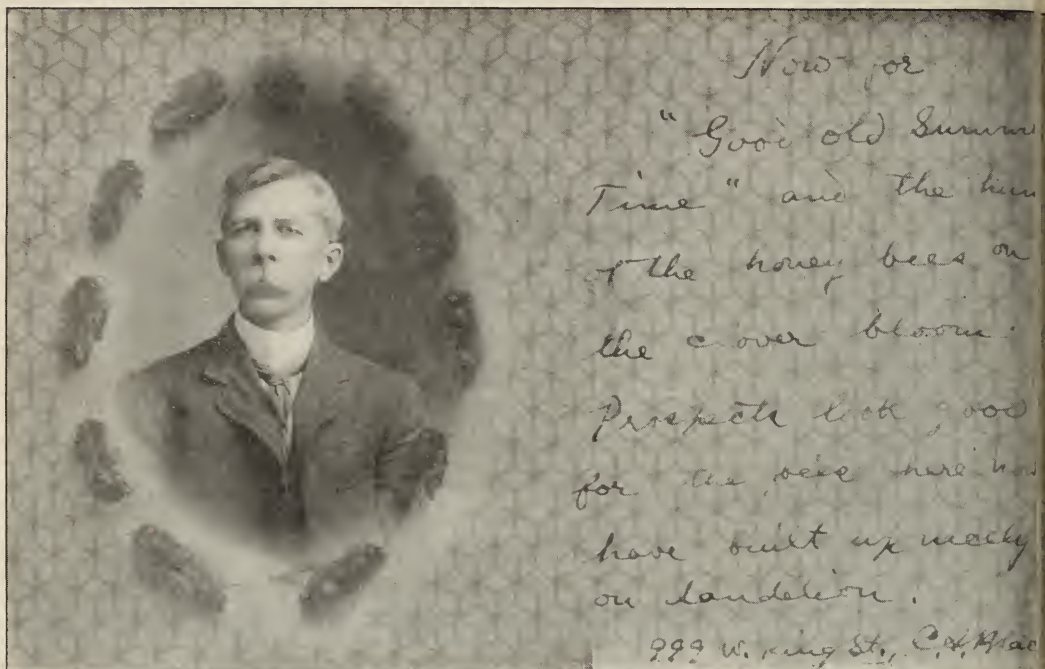
In answer to Mr. Leon C. Wheeler's article, page 482, Aug. 1, I will say that I am a producer of extracted honey, and I find it no trouble to produce fine light-colored honey in old combs. And so far as honey being capped over in old combs before it is thoroughly evaporated, I doubt it very much, for I have kept such honey a year or more with no sign of fermentation. All of my honey is sold under a guarantee. I have been in the business about ten years, and have never had a dissatisfied customer, and have never had to make good a sale. The only advantage new combs have over old, that I can see, is that they are transparent, which enables one to sort the light from the dark honey more readily.

The demand for my honey has always been greater than the production, and I have



FIG. 2.—INTERIOR OF ORTON'S CAPPING-MELTER.

Two shallow pans were made of a single sheet of galvanized iron, and the upper pan soldered to the lower, leaving a space for hot water between.



C. A. BLACK'S DESIGN FOR A POST-CARD.

tion's name to stand back of that honey, which it would not, if the producer or bottler were merely a member of the Association. The consumers want one company or some individual of responsibility back of what they buy. I have known plumbers and tradesmen, dealers, etc., to go together and advertise as a body, with the names of each appearing at the bottom of the advertisement; and from my observation this plan is not effective. As I said above, the consumer prefers to have one man or firm who will make definite statements concerning the product, and who will stand behind every such statement with a guarantee.

The grocers would call on the wholesalers, and the wholesalers would have to open up dealings with the nearest members of the Association, or with the ones who had the honey put up in the manner that the wholesalers' trade demanded. The diversity of packages, kinds of honey, and inability of the wholesaler to get honey of even grade and style of package is the greatest drawback to this method. I think twenty thousand dollars would be very largely thrown away unless there were a strong marketing company organized that would unify the efforts of individuals in the National Association or out of it.

Popular articles about bees in the magazines, articles on the healthfulness of honey in the daily papers, on the method of producing honey, and its freedom from adulteration in the grocery papers, all help to advertise honey. I know that the grocery

papers are glad to get articles descriptive of methods of production and preparation for market of any product that is sold in the stores. The sugar, coffee, cocoa, and the other manufactures, keep the grocery papers supplied with interesting descriptions of methods of production, which interests grocers, and they sell more of the goods if they can talk intelligently about them.

The furnishing of the grocery papers with descriptive material will be still more effective if augmented with advertising definite grades and kinds of comb and bottled honey in the advertising columns. The goods so advertised must be obtainable through the grocer's regular channel of supply, the wholesaler, to make this advertising effective. Advertising is not really effective unless the product can be easily secured. If one is close enough to be reached by telephone his chances of getting good results are better.

TRAVELING MEN TO SELL AND ADVERTISE HONEY.

Perhaps the most effective manner of advertising that will reach the wholesaler and retailer is by means of traveling men who thoroughly understand the product as well as the markets and the relation of honey to other sweets. Bee-keepers themselves are better equipped so far as the knowledge of honey is concerned; but few have had experience enough to be able to convince a man that he could profitably handle honey when he is not inclined to consider honey as a good thing for him to keep in stock,

repeatedly sold to buyers of California honey who afterward remained my customers. Most of my honey is put up in 1-lb. jars, which nets me 10½ cents per lb. This should be sufficient proof of its quality.

My experience has been somewhat different from friend Wheeler's, in that I have always been able to get higher prices for my fancy honey at home.

Coming back to new comb vs. old, I will say I can extract old wired combs without damage to them, and also get more honey per comb than I can from the new, as the extractor can be run at a higher speed. Another advantage in having an abundant supply of combs on hand is that one is always ready for a sudden or heavy honey-flow, and bees that were building new comb or drawing out foundation could be otherwise occupied; the producer would save .55 cent per lb. on comb foundation every three or four years, to say nothing of the amount of honey required in drawing out the same.

Siloam Springs, Ark.

[You have brought out a point that may explain why some producers feel that they must have new combs only for the best honey. It is true that, with old brood-combs, all honey looks dark; so if the locality is such that both dark and light honey are likely to be found at the same extracting, they are more likely to be mixed if old black combs are used.—Ed.]

A SIMPLE ENTRANCE-VENTILATION METHOD.

BY LOUIS H. SCHOLL.

The writer believes in hive ventilation, but only at the entrance. Given at any other point it interferes more or less with the inside work of the colony, such as comb-building, the rearing of brood, and the storing of honey in proximity to any such opening. Then we do not believe in giving too much space, nor in methods that consume too much time to apply, or such as create an extra expense and extra labor also. Too deep bottom-boards come under the first head. Any method that requires blocking up at four corners, putting extra strips on the bottom-board, cleats, or reversing the bottom-board entirely, come under the next; and the expensive "racks," etc., to slide in deep bottom-boards, also expressly made for the purpose, or such contraptions as were recently illustrated in this journal, come under the third head. Why, just think of the man who counts his hives by the hundred or thousands, and—!

By raising up the front of the hive by inserting the hive-tool in the entrance, while doing some kind of work with the colonies, a small stone or piece of wood is placed in the middle of the entrance, as shown, and it gives us good results.

New Braunfels, Texas.

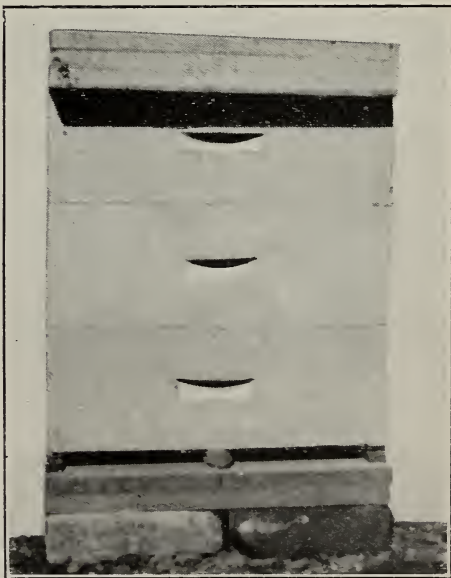
HOW SHOULD HONEY BE ADVERTISED?

The Importance of Having a Responsible Individual or Corporation Back of all Advertisements.

BY WESLEY FOSTER.

F. J. Root's plan of advertising honey through the grocery papers, page 410, July 1, would bring honey to the notice of wholesalers and retailers, and would help make sales; for the more the dealers can be induced to handle honey, the more it will be sold. There are many disadvantages to the plan of advertising nationally, unless there is a national honey-bottling company to take the honey of the members, say of the National Association, and put it up in uniform sizes, grades, and styles. Such a company or association would have to be organized to send salesmen throughout the United States, calling on wholesalers and retailers. Similar results might be secured by getting brokers to represent the association's interest in the large cities. These brokers sell to the wholesalers, and can often get an opening for a new brand or product, while a salesman unacquainted with the local firms might not.

Suppose the National Bee-keepers' Association should raise twenty thousand dollars for advertising honey in the grocery papers to reach the dealers, and in the popular monthly journals to reach the people—the consumers. The consumers would become interested, and would ask their grocers for honey put up by members of the National Association. They would want the Associa-



SCHOLL'S ENTRANCE-REGULATOR.

A small stone, quickly applied, gives good results in entrance ventilation.

There are bee-men who have the natural ability to convince a grocer of the value of honey as a profit-maker for him. Sincerity, directness, and a determined, positive attitude will get a respectful hearing in most cases. Besides these features, good tact in leading grocers up to a decision to buy is the other main essential. Prices should be at the tongue's end, and circulars with prices and illustrations of the different grades and sizes of honey-packages should always be left. One of the objections always met is that the grocer is not quite ready to order. What he means by that is that the salesman has not yet thoroughly convinced him of the value of honey, and he is simply trying to put off this salesman in order to get rid of him.

Selling by means of salesmen costs money, but it is the plan most likely to secure results that are tangible. The plan is advertising, just as a notice in magazines and papers is advertising. The form of advertising that is the most effective of all is a house-to-house canvass, at which time samples are given for the people to taste while the salesman is present. An order in most instances can be secured at once, which will generally run under one dollar each, according to my experience. When selling to retailers the sales average about four dollars in cities and ten to fifteen dollars in country towns where the ground is not covered so often. Sales to the wholesalers, of course, run higher—all the way from several dollars a month up to five hundred, according to the way the wholesaler's salesman push the honey among their retailing customers.

I am not much impressed with the idea of each individual selling his own product, unless he can get a very good price. A large bee-keeper can not afford to spend the time. Neither do I think that much can be accomplished by an organization like the National Bee-keepers' Association spending several thousand dollars in advertising unless it can have a regular business organization with a capital of \$100,000 at least to do business with. A start might be gotten with less capital; but the benefits to the bee-keeping industry of the whole country would not be appreciable until every large market was supplied with the product put up by the Association. Perhaps the Colorado Honey-producers' Association might be cited as a model for a national association. The Colorado bee-keepers (that is, the largest of them), organized about eleven years ago with but a very small capital to operate on, and now they have a sale for more honey than their members produce, and, consequently, they have to buy outside. Most of the wholesale houses of Colorado carry their line of honey exclusively, and it would be difficult to find a town in the State where their honey is not sold. This business was practically all built up through the salesmen of the wholesale houses carrying samples and price lists along with their other samples and literature.

Boulder, Colo.

TWELVE-FRAME HIVES PREFERRED BY ONE WHO HAS ALWAYS USED THE EIGHT-FRAME.

The Eight-frame Hive for Honey-production a Step in the Wrong Direction.

BY GEO. SHIBER.

There seems to be a strong tendency on the part of bee-keepers toward a larger hive than the eight-frame. Perhaps the majority are using ten-frame and some the twelve-frame. What I shall say on this question is from the standpoint of the extracted-honey producer. It might not apply to comb-honey production, and yet it might.

I have tried a few twelve-frame hives this season, and I find that they "deliver the goods;" and I am not sure but that, if I were to start anew, the twelve-frame would be my choice. Mr. Holtermann has said that, if there was one thing in bee-keeping that he knew, it was that the queen would more readily spread the brood-nest sidewise than she would extend it into a second story. He is just right, I believe; but there is another point to be taken into consideration. Let us take an eight-frame hive for illustration. The colony in it has wintered well; and as fruit and dandelion bloom come on, the bees soon need much more room, so another story of combs is added. If the colony is very strong the bees will soon occupy it, and later on the queen will lay in the bottom part of these upper combs. During all this time a colony in a twelve-frame hive would be getting ahead of this one in the two eight-frame bodies. One reason is, there is always a crack at the joints between the two bodies. This may be seen, even in a new hive; and an old hive, no matter how well it has been scraped, will show it a little more. The crack lets in the cool night air—a condition which does not exist in the twelve-frame brood-chamber, where no air can get in except at the small entrance, thus permitting the queen to extend the brood-nest with the smallest number of nurse bees.

I have several hundred eight-frame bodies that I have had for some years. They are in good condition, and I can not afford to throw them away. I started to use them in the latter part of the 80's, when that size seemed to take best in the bee-keeping world. Judging from events since that time, the manufacturers were forced to make and give prominence to the eight-frame hive; but I believe this was a step in the wrong direction.

This is the way I am using the eight-frame hives in extracted-honey production, and I find that they work all right: Suppose we have finished extracting about the last of July. Each colony is given another story of empty combs from the extractor. We now have two-story hives, each of which contains 16 frames, with no queen-excluder. When buckwheat blossoms, the bees will usually gather sufficient for winter; and the

weather being warm, and the force of bees strong, the queen is soon forced up into the second story, the bees gluing the two bodies together so tightly that there is no crack from the bottom to the top. The hive is carried into the cellar in the fall in just this way. Heavy? Yes, almost as heavy as a house.

We winter the colonies thus in the two bodies glued together. When they are carried out in the spring they have an abundance of stores and plenty of bees. No cold air gets in at the joint between the bodies, because there is no crack. I find that such colonies are the equal of those in twelve-frame hives for the honey-flow; however, the larger body is more satisfactory, and it is handier. In view of this, as I said before, I think I would choose the twelve-frame size were I starting with bees anew; but if one has eight-frame hives he can get strong colonies if they are managed as above described. A single body of eight or ten frames is not large enough for the average queen; but the twelve-frame hive furnishes capacity enough, except in rare instances.

Randolph, N. Y.

RAISING AND SELLING EXTRACTED HONEY.

BY C. A. BUNCH.

For the last twelve or fifteen years I have been trying to produce fine table honey, and I think that I have been successful. We extract the white honey about the last of July, and store it in tanks which hold 1500 lbs. each. We usually sell all the light honey soon after it is off the hives, except about 1000 lbs., which we keep to mix with our light-amber fall honey, which is largely from the touch-me-not. Our ripe basswood-clover honey is a ready seller; and the clover, basswood, and fall honey mixed make a blend that sells for the same price as the light honey. We extract the fall honey about the 15th of September. We got our first crop of honey-dew last season, and we sold it to a bakery for $3\frac{1}{2}$ cts. a pound. We sell most of our honey direct to the consumer, my son and myself being the salesmen.

For the grocery trade we usually buy from 300 to 800 one-pound square bottles with corks. We get 15 cts. each for these bottles. By this plan we keep our name before the public. The bulk of the crop is sold in nine-pound friction-top tin pails at \$1.00 each, and also in one-quart Economic glass jars at 45 cts. each. We sell both the nine-pound pails and the quart jars direct to the consumer.

We have a one-horse wagon, with a board tacked on each side of the box, which reads, "Honey for Sale." In the city my son sells direct from the wagon while I visit the meat markets, express offices, barber-shops, clothing-stores, etc., with the large packages. We usually make another trip with bottled honey only, for the grocery sales.

My son and I made two trips to the city, each of which took a day's time. In all we sold 83 nine-pound pails, for which we received \$83.00, and 46 quart glass jars for \$20.70, the whole amount received being \$103.70. We think this is far better than buying the square 60-pound tin cans and selling the honey at $8\frac{1}{2}$ cts. a pound. We live in the country, and sell produce; and my son usually takes the \$1.00 pails right along with him, and he sells from one to five each day.

Lakeville, Ind.

BEE-KEEPING IN ALABAMA.

The Possibilities of a New Part of the Country.

BY ERNEST RANDALL.

I started out last February by buying one swarm. I have divided, until now I have seven, all doing nicely. I use Danzenbaker hives. I also bought ten colonies six miles west of me, and now have thirteen there.

I am in the southwest corner of Alabama, six miles from the coast. I believe this will be a bee country in time. We have large titi swamps here that yield a large amount of honey early in the season. Then comes gallberry; and the bay-trees along all the streams bloom for several weeks; and now our clover will blossom till November. There will also be several hundred acres of oranges set out this winter. They will be four miles from here. We also have blackberries in all the swamps. The country is thinly settled as yet, but it is settling up fast by northern people.

I have a lot to learn; but some of the difficulties of the North, like wintering and spring feeding, will not worry us here, where bees fly every week in the year.

Grand Bay, Ala., July 23.

Sweet Clover in Washington.

This is an unusual season—very cloudy all spring until July 4; no lack of honey when it was clear for bees to gather it. The best honey-producers at that time were willows and a water-plant that grows best in two feet of stagnant water. After the Fourth comes alsike, which did well this year, outdoing the small white clover. Sweet clover will grow here on the dry spots of ground. It will never be a pest here if cattle can get near it, for they go for it in preference to other grasses or vegetables. They do not have to learn to eat it—not much—nor to be starved to it either.

I sowed a small piece of it in front of my house by the roadside. It did little more the first year than come up and be seen. The second spring it came up nicely, growing all right till the cows came along and chewed it down close to the ground. I intended to save a few plants by throwing an old Scotch harrow over a few shoots that failed, but the cattle "cropped it off" between the bars and killed it out. From my point of view the reason why cattle do not eat it in the East is because, under the climate and soil conditions there, it is seasoned too strong for their palate—a case of too much "pepper," if you like to call it so. Mix it with other grasses in the hay, and it will part with some of the "cumarin" and improve the other.

Lowell, Wash., Aug. 13.

WM. BELSHAW.

Heads of Grain

from Different Fields

A Bunch of Questions.

1. Will buckwheat yield nectar in a dry year? or when is it that it does not yield nectar?

2. Would you deem it advisable to make nuclei at this time of the year (Aug. 1)?

3. Do you know any thing about which will fly furthest in search of honey, of the following-named bees? Italians, blacks, or Banats. I see in your July 15th issue that a man in Texas claims that Banats are the only thing for long-distance flying in search of honey. What is your opinion of it?

4. Would not a four-inch space of chaff in a chaff hive be better for wintering bees outdoors here in Northern Iowa than two or three inches? or will it be injurious to have that much or a little more?

5. I used two Doolittle division-board feeders last fall and winter in a small colony, but the bees would make no attempt to get the feed; and the few that tried drowned in the syrup, which was made as you have directed. Now, could you explain why they did not use them, and tell how to prevent bees from drowning in the syrup when they try to get it?

6. Which hive, for all-around purposes, do you consider the best of the following: Danzenbaker, Massie, Heddon, or divisible or alternating?

Sweda City, Ia., Aug. 1.

ALBERT SWANSON.

1. Buckwheat will not yield as much nectar in a dry season as during a year when the conditions are more favorable. The quantity of nectar seems to depend more on the character of the soil and the actual temperature of the day than upon any thing else. In some sections of York State buckwheat nearly always furnishes a good supply of honey; but even then some years are better than others. In our own particular locality buckwheat yields only sparingly, although we always get a good crop of grain. In Northern Michigan and in Canada the plant seems to yield nearly as well as it does in New York.

2. We would not advise you to make nuclei at this season of the year unless you have had much experience as a bee-keeper. Better by far double up your weak colonies preparatory to winter.

3. We do not believe there is any difference in any of the races mentioned as to length of flight. The distance bees will fly depends largely on the source of honey and the lay of the land. When there is a heavy secretion of nectar, such as we sometimes get from buckwheat or basswood, bees will not go half as far as when the flow is light. For example, bees may go two or three miles when a moderate clover yield is on. When the yield is heavy, as from basswood, they will fly no further than is necessary to fill up quickly and return. In certain sections of the buckwheat areas of New York, bees will often fly five or six miles, especially if the flight is across a valley and there is no underbrush or trees in the way. We doubt if any bee-keeper has a strain of Banats or any other race that will fly further than other strains. It sometimes happens, however, that an individual colony of Italians, blacks, or some other race will fly further for nectar than some other bees of the same race in the same yard.

4. Yes, four inches would be better than two in Northern Iowa; but a hive with a four-inch space between walls is cumbersome and expensive. When a hive has to be made so large in order to keep the colony warm during winter it is better to winter indoors and use single-walled hives, both as a matter of convenience and economy. Where it is cold enough so that the temperature is, say, below the freezing-point continuously all winter, it is better to winter in some good warm repository, for the saving in stores if for no other reason.

5. Bees will very often refuse to take food out of a feeder after cold weather sets in, or during cool nights. If the colony is strong enough to keep up the internal temperature of the hive, it will take up the feed without hesitation. You probably fed when it was too cool. In a Doolittle feeder waxed all over inside it is advisable to use some sort of float. A stick a little less in length and width than

the inside of the feeder will answer very well. At one time Doolittle feeders were made by paraffining or waxing the whole inside. This made the inside surface so smooth that the bees could not readily climb out, and hence they drowned. The practice now is to nail the feeders up very carefully, and wax only the joints. Half a pint of melted paraffine is poured into the feeder, taking care not to wax the sides or ends—only the corners or intersections where the pieces come together. When the feeder is waxed in this way, no float is needed.

6. The choice of a hive will depend a good deal on general conditions and the man. The Massie and the Danzenbaker hives are much alike, and have about the same depth of brood-chamber. The Heddon and the divisible hives are practically one and the same thing. Not knowing the locality, the market, and the man we could not advise which hive to select.—ED.]

Claiming Damages from Foul Brood.

I sold bees and comb March 1, 1910, to —, after the bees were looked over and found to be healthy. I wanted him to look over the combs also, but this he did not do except in the case of one or two hives, and then took them; but now his bees all have foul brood. He says I deceived him, and has now put the matter in the hands of an attorney, claiming \$500 damages. The combs were healthy when he got them, I am sure. I am not a member of the National. Can I become a member yet? I know I am not guilty; but foul brood started among his bees, as it is very bad there. Can he force me to pay through the process of law? Can I not get some testimony that bees or combs may be healthy, and yet become foul a month later? After having bees five months he was well satisfied, but now is trying to make me pay, now that some of his bees are foul. About May 1st he wrote me to look the bees over again. I went there, and he had several combs of nice-looking young brood and new pollen; but by mistake he had taken the pollen for foul brood. All this young brood died, of course. Can it be that this looks like foul brood? Z.

[Without knowing more of the particulars we are unable to give you very definite advice. A good deal will depend upon what sort of contract you had; and if there is no contract in writing, whether there were any one person, aside from the contracting parties, who could testify to the condition of these bees.

One thing that will be in your favor is the fact that foul brood is very prevalent in and about —; and it would not be at all surprising that, if you sold healthy bees, they would develop foul brood in the locality where they were placed. The best thing for you to do is to make general inquiry as to whether foul brood was already present before you sold your bees. If you can show that there were diseased bees within half a mile, we will say, or even a mile, of bees that were sold, prior to the sale, the party could hardly claim that you sold him diseased bees, or at least he could not make out a case, in our judgment.

Then it is possible that his bees do not have foul brood at all. What he has may be nothing but dead brood. We think it would be advisable for you to call in your State foul-brood inspector. Let him inspect the bees and also give you a report of the condition of bees in and about — prior to the time of sale. The report that the foul-brood inspector gives you will have a strong bearing on the case.

You can join the National Bee-keepers' Association at any time; but the National has a rule that it can furnish no assistance in a financial way to one who has been sued for damages prior to his application for membership. But the National, we are sure, would be willing to render you advice. To that end we would refer you to General Manager N. E. France, Platteville, Wis.—ED.]

Is it Practicable to Space Closed-end Frames Widely Apart for the Production of Extracted Honey?

It requires rather more work than I care to do to produce comb honey, or at least entirely, and I am making arrangements to begin next season producing largely extracted; and as I have only the Danzenbaker hives, and have ordered more, I wish to know how I am to space eight frames to take the place of ten in my supers, for I have eighty of them

—the shallow, used in producing section honey. I might in time find some way to wide-space the Danzenbaker frames; but if you can tell me, why should I worry?

Notwithstanding I had many more bees to the colony May 1 than June 1 I have had good success—something like 1300 lbs. from 20 hives, spring count. I caught a few swarms in June, but it was so very dry that there was not much swarming. But two of my swarms made queen-cells.

If Mr. Townsend uses honey-boards and does not go near his outyards, how does he manage about the swarms which make queen-cells above the honey-boards?

I have 21 swarms over honey-boards, and have already found queen-cells. If this is to continue, and I have to look over all the supers to see if cells are started, it will mean considerable work. X.

[The Danzenbaker is more particularly a comb-honey hive, although it can be used for extracted. It would hardly be practicable to space eight Danzenbaker closed-end frames in a ten-frame body. The frames, as you know, would not stand up, but topple over against each other. We do not know how you could overcome the difficulty unless you made a sort of rake or comb, the teeth of which would slip down between the spaces between the end-bars of frames when spaced apart so that eight would just fill a ten-frame body. The back of the comb or rake should be made of tin, while the teeth should be square wooden pegs secured to the tin by means of one or two nails.

Mr. Townsend does not have any trouble with cells above honey-boards, but uses a different hive, the ten-frame Langstroth. The difference in climate, the difference in hive, and possible difference in management, may account for your differences in experience.—ED.]

Poor Success in Introducing a Queen to a Full-sized Colony.

In regard to introducing a queen to a full colony, p. 465, July 15, I am having Mr. Alexander's experience. A queen that I purchased and gave to a full colony three weeks ago is being superseded. How can I prevent it? I don't want the bees to raise their own queen, as the chances are she would not be purely mated. I was thinking of dividing the colony, leaving a few queen-cells below, and putting the queen and some young bees above with wire cloth between. Then kill the young queen, if they raise one, and unite the colonies before cold weather. Would this be all right?

Edinburg, N. D., Aug. 6. MRS. M. S. TROUSLIN.

[When we have a valuable queen that the bees are trying to supersede we keep taking away the cells or virgins as fast as they raise them. In this way the bees will keep the queen laying. Sometimes you can allow a virgin to mature to a laying queen; but there is danger that the bees will supersede the old mother. It sometimes happens that the queen which the bees are trying to supersede kill the cells as fast as they are filled. The bees will not long put up with that, and before long they will dispose of the old mother.—ED.]

The Advisability of Storing Comb Honey Upstairs; a Concrete Floor for a Bee-yard.

I am thinking of building a bee-house two stories high, and keeping the comb honey in the upper story, about a foot off the floor. From the top of the floor to the eaves of the roof it is to be 5½ feet.

The building will be covered with a comb roof, the comb being about 6 feet from the square of the building. Do you think it would be a dry enough place to put comb honey in the second story, the roof being covered with chestnut shingles? Some years ago I placed comb honey under a slate roof, and it was so hot that it boiled the honey out of the cells.

Do you think it would be a good idea to place two inches of concrete over a bee-yard to keep down the grass and weeds? Would it be too cold for the bees in the winter, and retard brood-rearing in the spring by setting the colonies on the concrete?

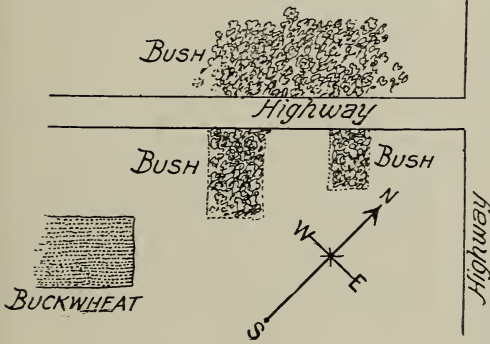
Williamson, Pa. L. H. LINDEMUTH.

[We see no reason why you could not store comb honey in the upper story of the building to which you refer, but we think it would hardly be a suitable place during the winter months. If the temperature becomes hot enough during summer to melt down the combs it would not be a safe place to put your honey. Honey is heavy stuff to handle; and the nearer you can keep it on the ground level in a warm dry place that is frost-proof and secure from insects, rats, and mice, the better.

We would not advise putting concrete two inches thick over a bee-yard. The frost would break it to pieces if it were only two inches thick. We do not suppose that it would greatly affect the temperature inside of a hive.—ED.]

Hive-covers Made Both of Wood and Concrete.

I have tried every way I can think of to make a wooden cover without putting factory work on it, but have always failed, as they will not stay the way I make them. I have made a few that I believe I shall like, although I have not yet tried them. With ¼ or ⅜ inch lumber I make a cover as wide as the hive, and long enough to nail half-inch cleats on each end. I then make another cover, out of concrete, which is 2 ft. long and 16 in. wide. These are 1½ in. thick on the two sides, and 2 in. thick in the middle. I find that these covers cost



A Buckwheat-Field that the Bees Found by Scent.

On page 230, April 1, J. L. Byer rather doubts that case of Mr. Thompson's regarding bees finding new pasture by scent. It was only last fall that I visited one of my outyards, and every thing was as quiet as could be; but next day every thing was in an uproar. A warm south wind was blowing at the time, and I was afraid they they were finding honey-dew in some place, because I was unaware of any buckwheat being within reach. This day I went home by the Lake Shore Road, and a farmer friend of mine hailed me and said that his buckwheat (12 acres) was alive with yellow bees, and he had not seen them until then. In the yard referred to above are the only Italian bees within six miles, and for them to get to that field of buckwheat they had to fly 1½ miles to a high timbered bush, and either go over the top or go roundabout, then cross a large field, then encounter another bush of high timber, then about another half-mile to the buckwheat—2½ miles in all. I am quite satisfied those bees would never have found that pasture if the wind had not blown the scent in the direction of the yard.

Burlington, Ont., April 18.

ISAAC BALMER.

me about 8 cts. apiece for the material, and twenty minutes' time is needed to make one. I put the thin wooden cover on the hive, and then the concrete cover on top of it. In this way they look very nice. I notice that some lay stones on top of the hives to keep the wooden covers from blowing off. Would not these concrete covers be much better?
Sycamore, O. C. A. HALE.

[These concrete covers will, perhaps, be all right, although if you had a large number of colonies you would probably find it a good deal of work to handle such a heavy cover every time you open a hive. There would, of course, be the advantage that they would never wear out, and there is probably no chance that water could get at the thin wooden cover underneath; but still, if the hives were not perfectly level every way, and if the under side of the concrete cover were flat, it might be that the water would run along the under side and soak up the thin wooden cover. It would be well to try the few that you have made before you make a large number.—ED.]

Requeening a Colony that has Long been Queenless.

I have a colony that seems to be full of bees, but queenless, and it has been long enough to have sealed worker brood. I should very much like to save them. What would you do for them? I run them for extracted honey. They had an old queen in swarming time, and swarmed early. I caught the queen while they were coming out, divided the brood, and put half in each of two ten-frame Dove-tailed hives, filled up with empty combs, and put on a honey-board queen-excluder, and they made 20 frames of extracting-combs. After I took off the two upper stories I found they did not supersede the old queen but became queenless. I am afraid they will not accept a queen, as they have been so long queenless. I have strong colonies to take from if safe to do so.

Morgan, Mich., Aug. 18.

W. S. ADKINS.

[If the colony has long been queenless it is a little risky to introduce another queen. In the case described we would advise taking unsealed brood out of the other strong colony and putting it in this colony, letting them build cells of their own. If you find that they start them you could then introduce safely a queen that you could take from another colony, or you can allow the bees to go on with their cell-building and raise a queen of their own.—ED.]

Importance of Selling Honey-dew as Honey-dew Honey.

I have some white-clover and some honey-dew honey, mixed, from last season. This is not a good table honey. I wrote to the National Biscuit Co., Chicago, to see what they would give me. I received a very satisfactory answer, but they asked me to sign a pure-food paper. I do not know how to class such honey under that law. Will you advise me how to proceed?

Williamsburg, Ind., Aug. 2.

T. A. OLER.

[Probably all the National Biscuit Co. wants you to do is to sign a statement reading something like this: "I hereby guarantee any honey I may sell to the National Biscuit Co. at any time to be pure, according to the National Food and Drug Act of June 30, 1906."

The National Biscuit Co. will not buy honey unless it is pure. When you sell honey-dew, be sure to sell it as "honey-dew honey" and not as "honey," otherwise you would be violating the national pure-food law. The National Biscuit Co. is probably willing to buy honey-dew honey; and all it wishes to be assured of is the fact that the honey is absolutely the product of the hive, even if it is honey-dew.—ED.]

Chickens that Ate Worker Bees.

S. W. Uber, p. 391, June 15, says he has never seen chickens eat any bees but drones. I wish he could see my flock of Barred Rocks. I have my chickens and bees all in one pen; and the way those half-grown chickens eat bees is something terrible for a bee-man to look at. I thought at first they were eating only drones; but on closer observation I

could see that it was the workers they were after. The honey-flow is now over, and the bees have killed off all their drones; but the chickens keep on eating bees every day, and they do not seem to care very much for stings. They will stand a little way back from the entrance, watch it closely for a minute, and then dart at it and grab a bee, and then run; and if any of the bees give chase, the fowls stop when a short distance from the hive, and let the bee alight on their feathers, then pick it off and eat it. The chickens are well fed with all kinds of grain. I have kept bees with chickens for years, and have never observed them eating bees till this summer. A shortage of insects is the only way I can account for it. The old hens do not seem to bother—only the half-grown chickens.

Mason City, Ia., Aug. 13.

W. E. BROWN.

How to Prevent Leakage when Shipping Bulk Comb Honey in Friction-top Cans.

Having had some worry and loss of comb, or bulk comb honey, when packed in cases of 10 to 12 pound cans, and especially when shipped out of the State, I have at last found a way of packing said cases in such a manner as to eliminate all possible loss from leakage in transportation. All who have had any experience with the boxes containing the 12-lb. friction-top pails know they are very light and frail. Now, my plan and practice of preparing these for a long journey are to place the buckets in the cases after being filled; remove the balls, and crowd six pails to one end of the box and the other four to the other end, which leaves a one-inch space between the two groups of pails, in which I place a piece of one-inch lumber as wide as the box is deep, and as long as the box is wide, forming a solid partition into which the sides, bottom, and top of the box may be securely nailed after first packing paper or any good packing material between and on top of the pails. Of course, the balls should be dropped inside the box. If all bee-keepers would use care in putting their honey in the best possible shape for shipment, our freight rates might be reduced to some extent at least.

Moore, Texas.

O. E. MILAM.

A Second Crop of White Clover the Same Year.

Something which I consider unusual happened in this locality this summer, and I want to ask the readers if they ever knew any thing like it. It is a second crop of white clover. There has been a great deal of rain here all summer, and a good crop of clover in June and early July; and clover ceased blooming about July 15 as usual. There were several heavy rains about that time, however, and about ten days later a few clover-blossoms appeared. In some places there is almost as much bloom as there was the first time. This may not be any thing unusual, but it struck me as being something a little out of the ordinary.

Louisville, Ky., Aug. 11.

J. B. CHRISLER.

Curing Foul Brood in Dry Weather.

How can I cure American foul brood in this dry weather of Iowa, where there is not a drop of honey in the fields?

Cedar Rapids, Ia., Aug. 5.

V. HLAVATY.

[The method for curing foul brood in dry weather is precisely the same as curing that disease in any other kind of weather, except that it will be necessary to give a little stimulative feeding 24 hours after the bees have been shaken on to the foundation. The treatment we would recommend is the Quinby plan of shaking or brushing the bees on to frames of foundation in a clean hive. The old hive may be used again, providing it is scorched out with a painter's torch.—ED.]

End-spacing Staple in the Middle of the End-bar.

Mr. Louis H. Scholl advised placing the staple $\frac{1}{2}$ inch lower than usual to do away with propolis. I have been placing the staple 2 in. below the top-bar in the frame-ends to prevent the splitting of the end-bars, and I find I like it better than the old way, as the frame-ends, besides not splitting, are spaced more regularly from top to bottom, and I think you will find it worth trying.

Allenville, Ala., Aug. 19.

H. F. HART.

Our Homes

By A. I. Root

What shall it profit a man if he shall gain the whole world and lose his own soul? or what shall a man gain in exchange for his soul?—MARK 8:36.

Quite a few times during the past year some of my good friends have paid me the high compliment and honor of referring to these Home talks as A. I. Root's "sermons." While thanking them I feel that they give me more credit than I deserve; but this time, dear friends, I am glad to tell you that I am going to give you a real *sermon*. Of course it will be a *lay* sermon, but it is a real sermon for all that; and may God bless the message I bring you. I feel more free to write as above because *this* sermon is not mine, and comes from a good brother whom I have never met or seen.

On page 333, May 15, I urged you to get and read an article in the May *Cosmopolitan*; and I now wish to urge you to get a copy of that magazine for this present month of September, and read "What are You Going to Do about It?" by Charles Edward Russell. I have read the introduction, that I am going to copy here, a good many times over; and I hope and pray that it may be read over and over again. Yes, I should like to have it read by every man, woman, and every child who is old enough to understand it—especially our young men. Without any further preface, here is the article that stirred me up so powerfully:

At Iuka, a decent little town in Marion County, Illinois, the chief citizen was D. W. Holstlaw. He was commonly referred to as the founder of Iuka, which was not quite true; but he had helped it and given much to it and was accustomed to have his way about it. In the eighteenth century he would have been the feudal baron. In the twentieth he was the rich man of the town, the banker, political leader, social dictator, and business guide. He was also the example to young men and the delight of the moralists. He owned much real estate; he was president of one bank and chief owner in two others; he built and maintained the Baptist church; he selected candidates for office, and for his opinions as for his character men had profound respect. He was a good man.

In politics he chose his own prizes. He was the acknowledged Democratic leader in his region, and he went to the State legislature, first as representative, then as senator. He had passed his sixtieth year—a life free from reproach was declining full of honor. He was a good man.

In May he went to Baltimore as a delegate to the National Convention of the Southern Baptist Church, of which he was a pillar. On his way home he learned that he had been summoned as a witness before the grand jury of Sangamon County, in which lies Springfield, the capital of Illinois. Therefore he broke his journey at Springfield to see in what way he could assist the grand jury.

The State's attorney (or prosecuting officer) of Sangamon County, a slender young man not long in office, invited Senator Holstlaw to his room. "Senator," said the young man, in a quiet, friendly way, "did you ever hear any talk of bribery in connection with the contract for furniture awarded at the last session of the legislature?"

"Why, no," said Senator Holstlaw, "I never did." "Do you know a man named J. W. Knox?" "Yes, I think I have met him—in a casual way." "Did you write and mail to Mr. Knox before January 18th, a letter addressed to him in Chicago?"

"I don't think I did. I have no recollection of it." "Did you ever make any appointment with him?" "No, I did not." "Ever seek to make any appointment with him?" "No, I did not." "Ever communicate with any of the representatives of the furniture firms?" "No, I never communicated with any of them." "Very well," said the State's attorney. "We will now go up to the grand-jury room if you like."

So they went up to the grand-jury room, where Senator Holstlaw heard the same questions and gave the same answers, and was excused.

A few minutes later he was indicted for perjury. He waited in the sheriff's office. It was a gray and trembling old man that sent word thence to State's Attorney Edmund Burke that he desired to correct his testimony before the grand jury.

"No corrections," said Mr. Burke, not unkindly. "If you are willing to make a full statement of all you know about these matters it will be received. But I can not discuss any thing else with you. You are under indictment. I advise you to secure counsel at once."

The under-sheriff sent out and got him lawyers, and at the close of the day Mr. Burke went home. Early the next morning the lawyers were at his telephone asking him to call for a moment at their office on his way to his own. Mr. Burke complied. Spread out before them the lawyers had a copy of the indictment, which Mr. Burke himself had drawn. It contained the following letter:

Forty-sixth General Assembly,
State of Illinois,
Senate,

D. W. HOLSTLAW
42d District,
Iuka,
I-12-10.

MR. KNOX, Chicago, Ill.

My dear Sir

It has been arranged that I should see you will it be convenient for you to meet me in Springfield Monday Evening say about 8 o'clock if so agree or write me at my home (Iuka Ill) Must see you not later than above date.

Yours Resp

D. W. HOLSTLAW.

The questions asked of Senator Holstlaw and his answers thereto followed this letter.

"You don't intend to prosecute on this indictment, do you?" said one of the lawyers.

"I certainly do," said young Mr. Burke.

Some lawyer's prolegomena followed, and then came the news that Senator Holstlaw wanted to confer with Mr. Burke.

"Nothing to confer about," said the young man, and he got up and moved for the door. "I came here under the impression that you had something to say that related to my duties. Senator Holstlaw has counsel; they will have to look out for his interests."

"Well, how about an order of immunity?" suggested counsel.

"If Senator Holstlaw will make a full, true statement, covering all phases of this matter and all he knows about bribery, I will consent to an order of immunity," said Mr. Burke. "But his statement must be submitted to me in writing, and he must be examined on it by me in your presence."

Mr. Burke went out, and that afternoon Mr. Holstlaw's statement came over. It was an explicit confession that he had received \$2500 to vote for William Lorimer, present junior Senator from Illinois, \$700 as his share of the miscellaneous graft of the session, and a promise of \$1500 for his vote on the furniture contract. Bald details of these transactions he set down—what men had bribed him and when—and, in outline, appeared something of the system whereby for years a controlling clique in the Illinois Legislature had sold legislation to the highest bidder exactly as it might sell peanuts or town lots.

Then Mr. Holstlaw was released and allowed to go home. When he arrived at Iuka his son-in-law, who had gone down the line to meet him, all but carried him from the car. He had not slept for sixty hours; his drawn face was the color of ashes; his feet hammered the earth as he tottered along. The two slipped from the rear of the train, hoping to avoid those same townspeople that used to welcome their Senator when he came home and were now to the shaking old man objects of unspeakable terror. So he reached his house and his bed, his aged wife weeping and wringing her hands, the window-blinds pulled down, the place darkened for shame. Some days later Mr. Burke found he must ask of Senator Holstlaw some further questions, and went to Iuka. The fallen leader lay in bed, a

physician in constant attendance. One palsied hand on the bedclothes shook and twitched; he rolled his head from side to side as if in unendurable pain; his face was like a dead man's. I wish all the men that so airily and flippantly go into this deadly business of graft could have seen him, for such is the ripened fruit of their work. The wife came into the room, and the son must lead her out. Downstairs the daughter sat crying. All this household crushed; the reputation swept away that the man had toiled forty years to build; all gone for the sake of forty-seven hundred dirty dollars that the man did not need. Think of that for a time, and see where it leads you, particularly if you believe in the sanctity of the existing system.

Please notice in the above that this man Holstlaw is a professing Christian. He has in his past life built and maintained a Baptist church. Now, please do not infer from this that I am casting a slur on the Baptists—God forbid. My wife's parents and mine were all members of the Baptist Church; and I suppose if we were to trace out the history of different senators and public men who have accepted graft we should find them (and I say it with pain) in each and probably all of our churches. As I read the story I could hardly suppress a groan, and I said inwardly, "What does Christianity, and what does church-membership mean, and amount to, to a lot of our American people?"*

In a recent Sunday-school lesson we are told that the Savior went into the temple, and while there he cast out the tables of the money-changers, and then said, "It is written, My house shall be called the house of prayer; but ye have made it a den of thieves." Not only did this man build and maintain a Baptist church, but he was chosen as a delegate to a national convention of that church; and it was on his way home from that convention (at a time when one would suppose that he would be full of the Holy Spirit, and that he above all others would be living and following the injunction of the dear Savior, "Thou shalt love thy neighbor as thyself") that he was told, "Thou art the man."

We are not told whether this young State's attorney was a professing Christian or not; but, thank God, we have some young men, if not old ones, whose hearts burn with indignation when they get glimpses of the outrages committed against citizenship that are given us now and then by our political leaders. This young attorney had the grit to decide and to stand up boldly against this sort of iniquity, no matter what might be the consequences to himself. What must have been the feelings of that old senator when he found he was in a trap? I wish the whole wide world, young and old, would remember this incident and

consider the consequences—try to imagine how *they* would feel when summoned before a grand jury, and being shown how their duplicity and rascality were known to all—yes, in possession of this grand jury in *plain black and white*, in their own handwriting.

I admire Edmund Burke for saying briefly, "No correction." I admire him again later on for saying, "Tell the attorneys that we have nothing to confer about." He insisted on a full and honest *confession*. The Bible tells us, "Whoso confesseth and forsaketh his sins shall have mercy;" and our political affairs seem to indicate that we as a people need a great lot of "confessing." This attorney finally succeeded in inducing this gray-headed old man to *tell the truth*. I especially admire Charles Edward Russell where he says these senators "for years sold legislation to the highest bidder exactly as they might sell peanuts or town lots." Is the above a fair sample of what is going on in our State and others as it was this time in Illinois?

And now comes the real wholesome moral of our lay sermon. We are not told that his conscience troubled him so long as he was not found out. How many people have we in our "land of the free and the home of the brave" who *sleep* all right so long as their iniquity is *not* brought to light? After this exposure, however, we are told "he had not slept for sixty hours." A short time ago I thought I would try Upton Sinclair's hunger cure. I held out pretty well for *26 hours*, and then concluded I was "cured," and broke from my fast. Well, something disturbed me a few days ago, so I went without sleep for about *18 hours*. Most of you will say, "Why, that is nothing;" but Terry tells us that it is *sleep* and *not* food that gives vigor to both mind and body; and for years past I have been having a nap about once in five or six hours, winter and summer; and when I was deprived of my sleep for 18 hours my nerves seemed all unstrung. Now, when we read that this old friend (I think *friend* is the right word; for if we are going to follow in the footsteps of the Master we must also try to follow him who is the "friend of sinners") had had no sleep for sixty hours we can imagine the color of his face and his tottering footsteps. The hand-shaking he had been wont to receive while he was supposed to be a good man, and one above reproach, were now "objects of unspeakable terror." It seemed necessary that Mr. Burke should ask him some more questions; but the thought of meeting this clean pure young attorney once more, cast him into a fever. No wonder his hands twitched and shook, and that his head rolled from side to side as if in unendurable pain. Now, then, let me repeat, and put in italics, the following sentence from Charles Edward Russell, the lay preacher, who is preaching this splendid sermon.

"I wish all the men that so airily and flippantly go into this deadly business of graft could have seen him, for such is the ripened fruit of their work."

* Once I was visiting some friends, and while at the dinner-table something was said about a certain person in that community; but the good wife protested, saying, "Why, Mr. — is a member of our church. Surely what you are saying can not be true." The husband here interposed, with a sly twinkle in his eye, "Why, my dear wife, church-members do not pay their debts any better than, nor in a different way from, other people." As this man was not at *this time* himself a member of the church, although his wife was, I could hardly accept his statement as unbiased. God forbid that such a statement should be true in any community.

We are told that the good wife, her head bowed with shame, had to be led out by her son. Downstairs the daughter sat weeping—and well she might cry. Now listen! This lay preacher says, "A reputation was swept away that the man had toiled forty years to build."

Some of you who read this story may be tempted in a like manner—possibly very soon, for graft is abroad in our land. It is in the very air we breathe. It has gotten into all sorts of business; yes, and I say it with shame, it has a few times not only gotten into our places of worship but behind the sacred desk.

One more quotation; but instead of putting it in italics I will use a larger type to add greater emphasis:

"ALL FOR THE SAKE OF FORTY-SEVEN HUNDRED DIRTY DOLLARS THAT THE MAN DID NOT NEED."

The six concluding words have such a terrible significance that I wish to repeat them again: "That the man did not need."

If you look about you and witness the scramble for money you will see every little while that somebody has been risking his reputation—yes, even *selling his soul* for a little money that *he* "did not need." I told you some time ago of a person whom I knew who made his life miserable because he was not given a few hundred dollars that he thought belonged to him. He could think of nothing else, day or night; but in the course of time, when things swung around unexpectedly, so that he got the money that he had worried and fretted about so much, he found he had no use for it, and no need of it. He put it out at interest, but he had no use for the interest; and when he came to die suddenly the money had never been of *any* benefit to him *at all*.

May God help us to stop and think and consider, not only once in a while but every day and hour.

For what shall it profit a man if he shall gain the whole world and lose his own soul?

After the above was dictated I came across the following in the *Sunday School Times*:

What do you think of a bank president who, being paid a large salary to serve as the head of an institution to which many people entrust their money for safe-keeping, takes this money, gambles with it in the hope of winning more, and loses it—the money of those who committed it to his keeping because they trusted him? Why is such a man despised by every one? What do you think of the men in Pennsylvania who were trusted with the great responsibility of handling millions of dollars of other people's money in the building and furnishing of the capitol at Harrisburg, and who, it was found, probably "grafted" several millions of dollars of these trust funds to their own personal accounts? Is it too severe a penalty that, of five of the men implicated, two died under the strain of their trial and conviction, while two others are to-day serving sentences in prison?

MONTGOMERY WARD & CO., AND SEARS, ROEBUCK & CO.

I am reminded by one of our readers that Sears, Roebuck & Co. are just as worthy of "honorable mention" as Montgomery Ward & Co. He adds also that Messrs. Sears, Roebuck & Co. are so much on the side of temperance that "an employee entering a saloon within a prescribed district thereby affects his own discharge."

SHALL "REBELS" RULE?

When the righteous are in authority the people rejoice; but when the wicked beareth rule the people mourn.—Prov. 29:2.

FIREBUGS BURN ENTIRE VILLAGE.

WAGE RELENTLESS DESTRUCTION UNTIL HOTEL IS THE ONLY BUILDING LEFT.

CITIZENS PATROL STREETS AT NIGHT, AND SUSPICION FACES ALL.

BUFFALO, Aug. 24.—Building after building incendiaries have devastated in Orleans, Ontario County, New York, only recently a flourishing village of 3500 population. The one place of business left standing is the Orleans Hotel, and that is being vacated to-day.

Panic fills the place, and armed volunteers nightly patrol the streets. Citizens fearing they would be burned alive in their beds have left their homes, some of which can be bought for the price of the cement walks before them. A woman locked up her house on the main street and left town. Fire destroyed the house next door but one to hers, and another fire the house adjoining.

Men regard each other suspiciously, and lifelong friends have become enemies. They refuse to talk to each other about the fires, and they fear doubly to talk to an outsider. This attitude hampers the investigations being made by District Attorney Myron D. Short and Sheriff Gooding.

The first and most destructive fire started at midnight, April 16. Although several buildings burned were not insured, the companies paid out \$30,000 on those that were. Now the insurance companies refuse to do business at Orleans, which has no fire department.

Pinkerton detectives posing as farm hands tried to find the origin of the oft-recurring fire. After a month the detectives went away with the strong suspicion that the intense bitterness between the "wets" and "drys" over the local-option question had much to do with the incendiaryism.

—Cleveland Plain Dealer.

Some of you may wonder why I have copied the above piece of news, which does not differ materially from what we see in almost every issue of the daily papers, except that it speaks of the *burning-up of an entire village*. Well, the reason why I copied it is because of the last paragraph. The Pinkerton detectives, after a month of investigation, decided that it was simply a quarrel between the wets and drys, and they went away and left the parties to settle as best they could. These Pinkertons and some other people look down from their lofty pedestal, and seem to consider differences between wets and drys like any other neighborhood quarrel, and that both sides are more or less to blame. Now let me ask a question right here: Does *anybody*, even the liquor people, believe the drys had any thing to do with burning up that village? The drys are the Christian element of our nation. They believe the majority should rule, and make the laws, and that, after the laws are made, all people should obey them. The wets, on the contrary, do not relish law of any sort provided it affects the control of their "business." If the laws do not suit them, and enable them to go on with their money-making, they openly and defiantly *transgress* law. And that is the trouble in our nation to-day. While I write, the same vicious element are taking the law into their own hands at the capital of our State. Even when the militia have been called out they have been unable to stop the mob from stoning and dynamiting the street-cars. The Governor of Ohio is on the spot, but he is, to a certain extent, helpless.

This rebellion on a small scale is not particularly different from that of 1861. The question that confronts us, each and all, is, shall rebels rule? or shall peace-loving and law-abiding people, who are certainly greatly in the majority, make our laws and see that they are enforced?

Now, the great point in this question, it seems to me, is this: Why do not the good people of Orleans, N. Y., and Columbus, O., *banish the saloons* and have them done with? *Columbus* has tried closing the saloons temporarily, say after six o'clock at night, and until six the next morning. Yes, I guess *tried* is the word; for they did try, but did not succeed. The mayor and the police of that great city were not equal to the task of making the saloon-keepers "shut up," even after dark. Well, let this town and this great city, both of them, put *down* and *out* the saloons now and evermore, and there will be no trouble at all in enforcing the laws. In trouble to do this they must perhaps get a *new* mayor and a new set of *policemen*; and, if I conjecture correctly, Governor Harmon is slowly coming to the same conclusion. Will he do it? Here is what he says in regard to the matter, clipped from *Cleveland Plain Dealer*:

Let the investigation be swift, thorough, and sure, and all the resources of the State will be at your back to assist in punishing crime and making scoundrelism odious in this community.

Especial attention is directed to dynamite outrages. The men who are directing this guerrilla warfare against society must be discovered and punished if civil government is to continue in the land. No mercy should be shown the terrorist who, lacking the courage of the mob and the rioter, skulks in dark places, sets his deadly stuff, and then, in fiendish glee, hides himself to await the explosion. The stone-thrower and the intimidator are alike guilty of crime under the laws of the State, and will not be tolerated in Ohio.

THEN AND NOW.

The Wright Brothers and Their Flying-machine up to Date.

At the close of Our Homes for Oct. 15, 1904, I used these words: "We want a machine that will float as easily and safely as the bees, the butterflies, and the carrier pigeons. May the Lord be praised, this is already *in sight*."

The above was the closing of an article on the new inventions of the age. Shortly after (see GLEANINGS for Jan. 1, 1905), I told you of seeing the Wright brothers make their first successful flight, and that included turning around and coming back to the place of starting; and GLEANINGS was the first periodical on the face of the earth to announce to the world the crowning success of their years of experimenting in order to make a machine that would fly without a balloon. Since then the Wright brothers have been held up so prominently, not only before the people of this country, but before the *whole world*, that everybody knows pretty well what they have been doing.

Day before yesterday, Aug. 29, it was my pleasure to get around once more to the old

familiar field between Dayton and Springfield, Ohio, where they have so long made their experimental flights. I reached there about 2 P.M., and was at first somewhat disappointed on finding neither of the Wright brothers present, and to be told that they might not come out that day at all. Since my last visit a neat and convenient building has been erected, of sufficient capacity to hold a flying-machine, or, in fact, two of them, all ready to fly. A very plain notice, in black and white, met me at the gate, saying—

"POSITIVELY NO ADMITTANCE."

But I ventured to open the gate and go through, notwithstanding; and when I explained to the four bright young men that I had an invitation from one of the Wright brothers I was made an exception to the general rule.

Permit me to say right here, that, at the present time, not only hundreds but sometimes nearly a thousand are permitted to stand around *outside* the fence, for at present there is no more need of secrecy. When these young students in the art of flying informed me that they would very soon run out the craft and sail it through the sky without any assistance from the Wright brothers, my disappointment began to give way; for I reflected that, if the work had come to such perfection that the students could be intrusted to make flights all day long without the *presence* of the owners, things were indeed progressing far beyond what I expected or knew any thing about. As the wind generally goes down toward evening, a good many days most of the flying is done late in the afternoon.

In a little while people began gathering in from all directions, with automobiles and other vehicles. An ice-cream wagon came on the ground; the popcorn boy was in evidence, and one of the Wright machines was easily slid or pushed outside of the building. The track that the machine used to run on had been dispensed with, and also the weight dropping to shoot the machine up into the air. Two pairs of pneumatic tire wheels, not unlike what we see on automobiles, were so placed as to lift the car a little above the runners, made something like a sled-runner, although very light and strong, as I have explained in previous papers. One of the students took a seat near the engine. Two others took hold of the propellers to do the cranking, and the fourth young man sat on the ground and held the machine till the propellers got up to full speed. The starting-ground is simply a smooth piece of grass descending slightly a few rods. At a signal from the man in the machine the boys let go, and off it started. The rubber tires, as they bumped over the ground, made some little jolting, especially when the machine got up speed. Very gradually the rubber wheels touched more and more lightly on old mother Earth, and pretty soon the beautiful and wonderful fabric *slid* off into the air, and then it was as still and smooth

in running as a boat going through the smoothest water. To me the sight was most inspiring. I remarked to bystanders that it was more wonderful than any story in the Arabian Nights. After the machine left the ground it rose gradually in circles, and then for the greater part of the afternoon—in fact, until dusk—the machine was, most of the time, in the air, describing circles, figure eights, and making all sorts of graceful maneuvers. In going with the wind it seemed as if the speed was pretty close to a mile a minute; but in making a turn it slackened up in velocity quite perceptibly; and in coming back against the wind the speed was very materially retarded.

The boys who read these pages have, in times past, had fun in sliding down hill. But you have to walk back laboriously, dragging your sled after you. Now, boys, what sort of fun do you suppose it would be to slide down hill *on the air*, and then, instead of having to walk back, you just "slide up hill" on the air to the point of starting, and then slide down again. And that is what those students do with the flying-machine.

Six years ago I tried to tell the world what was going to be accomplished by dispensing with roads and bridges, to say nothing of iron railways and railway bridges. I asked one of the Wrights what the comparative expense was going to be for gasoline compared with the amount needed, say, to carry four people in an automobile. He said he thought the flying-machine would take *less* gasoline to do the same work; and then he made a remark something like this:

"But, Mr. Root, perhaps you know by experience that the up-keep of the rubber tires is a much greater expense than the gasoline. This machine requires no *rubber tires* as it reels off the miles through the air."

Come to think of it, there is almost no wear or tear on any thing except the engine, chain, and the bearings of the two propellers. There are at present about half a dozen machines of this kind in service in the United States. I can not say how many there are in foreign countries; but there are several factories across the water turning out machines as fast as they can possibly make them. The Wright brothers are at present employing 25 to 30 hands, and turning out machines as fast as they can. They are just now occupying a rented building, but have just completed the purchase of two acres of land near the Soldiers' Home, where a building 250 feet long and 60 feet wide will be put up this fall. I might mention here that there has been some criticism in regard to the price—\$7500—for each finished and fully equipped machine. But even at this price they are *at present* unable to supply the demand. They often tell customers that, if they can wait another year, they will probably be cheaper. But men who have abundant means prefer to pay the present price rather than wait a year. Once more, all the inventors

of the world, for ages past, have never made any machine that would fly even a few rods—that is, and carry a passenger—until the Wright brothers did; and, if I am right about it, no one has ever *since* made a machine that would fly without making use of some feature of the Wright invention. I believe this is quite generally acknowledged.* The Wright brothers commenced their experiments more than ten years ago, and they went at it in a scientific way, and have labored hard, early and late. We have often been told that in years past the real inventor of any great innovation has seldom had proper *credit* or even *pay* for what he has given the world. We hope this will not prove true with the Wright brothers.

After one of the students made his first flight and sailed through the sky at different elevations for some little time, he came down easily and gracefully, and took in one of the others who was just learning to fly. With *two* good-sized men instead of one, the machine did not ascend from the ground quite as readily. As it ran a little further it went out among the weeds, and I began to fear it would not take the air; but in a little time it stopped its wabbling, and arose from the earth as easily and gracefully as a sea gull. Many times, in watching the pelicans in Florida I have seen them strike the water with their feet in order to get up speed so their wings would sustain them; and in this case it seemed as if these beautiful structures of wood and cloth must really in a like manner have life. Another reason why these machines are at the present time expensive is that the very best of material is procured, without regard to expense. They have made careful experiments to get the very best wood, cloth, and metal. The frame for the woodwork is made of the very best clear spruce, this wood proving to have more strength for its weight than any other they have yet found. The runners that slide along the ground while alighting are made partly of the strongest ash, and are reinforced so as to stand the shock of making a landing on almost any kind of ground. As so much depends on the propeller-blades, these are made of thin strips of spruce built up together with the strongest glue. They are then covered with the strongest canvas glued on. Their mechanics, especially those at the heads of the different departments, are probably as skillful in their line of work as any who can be found.† Consider for a moment how the very lives of good people depend on the faithfulness and fidelity of their work. The machine as at present made for carrying two people is about 40 feet wide, and it is almost as

* As evidence of the comparative safety of the machines as now made, I will mention that Miss Catharine, sister of the Wrights, has made several flights, and the venerable father, Bishop Wright, was up about 350 feet, and in the air several minutes, recently.

† Some of the papers reported the Wright Bros. had found a better engine in *France* than could be made in our country. Wilbur says this is untrue.

much from the tip of the front end to the end of the steering apparatus.*

While conversing with the brothers I made the remark that we had seen the bicycle go through an evolution, and that the automobile was also now so well along in its evolution that the inventors of both machines are now settling down to very narrow lines. Inventors have about ceased making changes in the bicycle, and most of the automobiles on the market are getting closer and closer to established lines. I then remarked to the brothers, "How long will it take for the flying-machine to go through a like evolution?"

Orville replied at once, "Mr. Root, the flying-machine has already *passed* the period of evolution;" and he pointed me to the fact that the machine I was looking at that day, and admiring, was but slightly different in its main features from the one I saw years ago. In talking the matter over afterward, Orville said he did not mean to say that there would not be great improvements, and very likely many important improvements, on the machine; but he felt pretty certain the successful machines are going to be either along the line of their invention, double plane or possibly monoplanes, such as they have now, and propellers to push it through the air. England, France, and Germany have each purchased the patent from the Wright brothers, and have factories turning them out more or less rapidly.

During my first visits, years ago, before their patents were secured, I was asked to omit certain things in my write-up; but when I to-day asked if I could describe all I saw Wilbur replied, "Mr. Root, you may tell any thing you choose about our work, providing you tell the *truth*." God knows we as a people want the *truth* always and everywhere.

Six years ago, in my write-up of inventions I referred to Columbus' discovery of America. When he looked abroad over this green earth and across the great waters he asked the question, "What is beyond and across the great sea?" But the world had lived 1492 years, and no one till his time had been able to tell what *was* away off across that watery waste. Just think of it, friends! Yankee ingenuity and Yankee curiosity have now got to such a pitch that we have compassed the North Pole, or at least have come pretty near it; and now inventive genius is at work to solve the mystery of the South Pole. Recent developments in Alaska indicate great things are destined to be brought to life in that region. Columbus was not content until he had pushed ahead and opened up a new world beyond the one known in his time. And let me predict once more in closing that the Wright brothers have by honest, faithful,

hard, and untiring work, and *scientific study*, wrested from Nature this great secret, and we are just now on the eve of exploring the mystery of the great "upper deep."

Poultry Department

By A. I. Root

POULTRY-HOUSES FOR SOUTH FLORIDA; IS A ROOF NEEDED? ETC.

The writer, being very anxious to find the right kind of poultry-house for South Florida, has submitted Mr. A. I. Root's article to the best poultry experts he can find in this section. In the article of July 15, page 457, criticism is asked for. The writer's knowledge of the conditions here being so recently acquired he does not feel competent to criticize. The men whose views he will try to give are fitted by long experience to speak, and he attaches considerable importance to what they have said. As his plans call for about forty colony houses in the near future, the question is a very vital one to him. Is it necessary to build as expensive a house as the senior editor's? Can a few dollars be saved on each one of the forty without detriment to the fowls and without cutting down the egg-production?

The matter was first laid before Mr. B., who came here 18 years ago from Northern Ohio. He is a hustling, wideawake, active man who has not lost his energy by long residence in this warm country. He landed at Ft. Myers with a sick wife and a little babe and no money. The doctors had said that Mrs. B. could not live. As a forlorn hope he spent all he had to get her here. Seeing that there was government land here he came up the river in a skiff and began the then herculean task of opening a home in the wilderness. There were no markets and no means of transportation; but he won out, and the wife still lives, perhaps the most useful woman in the community. The above is written that one may judge whether or not his experience was gained in a school that fits him to pass judgment. He pronounces the house too costly, and too uncomfortable for the chickens. Better, as he sees it, a cold rain occasionally with a few days slowing up on the eggs, than the fleas. The raking-out of the house each morning is too much labor, and is unnecessary. In this sandy soil, and in this healthy climate, things keep sweet and clean much longer than they do in Ohio. One who is running a large poultry-ranch can't stand either the work or the expense of daily cleaning, and it is not needed here. His poultry-house is boarded up six feet high on the north, east, and west. The south side and the top are covered with two-inch poultry-mesh to keep out the vermin. His fowls are healthy and vigorous. His egg production is large, and almost continuous the year round.

It is hard for us who have formed an idea of what is good poultry management under the rigorous conditions of the North to understand the far South and what it requires. I, therefore, quote the opinion of a successful farmer who has been 28 years in this neighborhood and 40 years in this State. He is one of those practical fellows who make a success of life, always having something to sell, and that something the thing that the market demands. He says *no roof* on the hen-house. The cold storms come very rarely. When they do the egg yield suffers for a few days. Under a roof the fleas flourish and the hens sicken and die.

The most successful chicken-man in this section is Mr. S., who has a five-acre grape-fruit grove about half a mile east of Alva, and who fertilizes his trees with the droppings from 600 hens. He has been at this business 12 years, and makes egg-production yield him a good living. He is a shrewd thrifty New Englander, counting the cost of every thing and getting a maximum yield at a minimum cost. He feeds oats, corn, and shorts. The first and the last are kept about the place in boxes to which the birds have free access. They are given about half as much corn three times a week as they would like to have. Corn is too heating for this climate. His birds roost in the trees to cut out the cost of

*Inventors all over the world have tried "something different"—machines to float by the flapping of wings, as a bird flies, for instance; but their machines *did not fly*—that is, they do not fly unless they make it pretty near something in the line of following the Wright brothers from first to last.

houses, and because it is nature's way. He objects to roofs on account of fleas; says that the chickens scratching in the Florida soil, backed by Florida's pure atmosphere, will make it unnecessary to clean up very often. His rule is, cut out all unnecessary expense either of money or labor.

One other's views should be given. He is a bright young man who has lived many years in the State, but has only recently come to South Florida to enter a homestead. He plans to raise poultry on a commercial scale, but has had no experience at the business. His idea is an open-sided colony house with a tight roof and a cement floor. He expects to clean his houses every day.

I believe that I have got to forget nearly all of my old ideas, and begin with new ones. It is my present purpose to build a frame out of 2x3 pine studs, and cover it with poultry-netting on the top and sides. In this will be the roosts and the nests. These will be shut up after the chickens get into them at evening, and opened in the morning. These will be inexpensive and (I hope) efficient. If roofs seem to be wise they can be put on later. Just now the smallest investment of money, time, and work seems to be very important. Should the plan prove to be unwise, a report will be submitted with the hope that it may be of benefit to some of your readers.

FRANK M. BALDWIN.

Denaud, Fla., Aug. 5.

My good friend, you strike on some very important points. Now I wish you would, at your first opportunity, ask those friends how they manage to get clean eggs to market. My experience is, if the rain is allowed to fall on the hens' nests the eggs will be stained more or less; and in the summer time it rains almost every day, as you know. I am well aware that no roof over the fowls helps greatly to keep out vermin, and I presume it is also better for the health of the fowls. Now, then, friends, the problem is, how shall we deliver to our customers nice *clean* fresh eggs unless our hens' nests are covered to keep out rain?

Our readers may remember that I have kept poultry in Florida for three winters without any houses whatever except a covered place for the hens to lay. Now, just think of it—living in a locality where you can run a large poultry-plant, if you choose, without any roosting-places whatever! There are, however, two very serious drawbacks. How are you going to catch your chickens when they are up in the trees? When you wish to separate your cockerels from the pullets, how are you going to catch them? How are you going to catch them to clip their wings? If you use the open hopper, feeding as I have always done, you will find it a big task to catch any chicken unless, indeed, you climb the trees to catch them, and you may not be able to get them even then. This is a great objection to roosting in trees. The other objection is that owls sometimes take even the grown chickens; and, if I am right about it, coons also sometimes climb trees. I was *finally* obliged to decide that I wanted my poultry, big and little, shut up nights where not even a rat could get in. Of course, this necessitates closing all the houses after the fowls have gone to roost, and opening them up again in the morning, say at daylight or soon after.

BERMUDA GRASS AND STICK-TIGHT FLEAS.

In regard to the stick-tight fleas, here is something more from a Florida man:

If Mr. A. I. Root will keep his chickens on a good sod of Bermuda grass he will not be bothered with jigger fleas.

R. ADDISON.

Loughman, Fla., July 18, 1910.

The above is a valuable suggestion. In Florida the chickens must have green feed the year round; and we have just one yard now so heavily sodded with Bermuda grass that 100 chickens on an eighth of an acre could not, I believe, keep the grass eaten down as fast as it grows. You see the droppings of the fowls give the Bermuda grass just the stimulant it needs to do its best, and I hope that this Bermuda grass will keep off stick-tight fleas, as they live only in sand.

POULTRY BULLETINS FROM OUR VARIOUS EXPERIMENT STATIONS.

I have been reading with great interest Bulletin No. 119, from the Northwest Experiment Farm at Crookston, Minn. I was particularly interested in the tables where they tested dry-mash and wet-mash food. The wet mash gave a little the more profit, it is true; but when we take into consideration the extra work required, I should decide in favor of the dry mash. But I was still more interested in the experiments to determine whether the Hogan & Potter systems ("don't kill the laying hen") were worth what the promoters charge for it. Here is what they say in regard to the matter:

During recent years there have been many widely advertised systems for choosing the laying hen; and the discoverers have made a great deal of money from this system. They claim that, by certain signs and types, they are able to estimate quite accurately the number of eggs a hen will lay in a year.

With a view of giving one of the most popular of these systems a trial, we persuaded the discoverer to come personally and estimate the laying qualities of 50 Leghorn pullets.

The birds were then carefully trapnested for a year, and the result in the table gives a very good idea of the worth of the system.

Well, after looking over the table showing the results of the experiments, which were kept up for a whole year with 50 laying pullets, it seems evident to me that the system amounts to but very little, if any thing at all; and yet who knows how many people have been humbugged by sending their dollar or *ten dollars* for this great secret?

LEE CO., FLORIDA—AWAY DOWN ON THE SOUTHERN LIMIT.

If you will look on your map you will see there is only one very small county below Lee—that is, Lee is very near the southern limit, the jumping-off place, I might almost say. Well, a good deal of attention has been directed to this region of late by land speculators. Lake Okeechobee and the Everglades are right in touch with the northeastern corner of Lee Co.; and the drainage canal, of which we have been told so much, is now being cut through from Lake Okeechobee through the Everglades swamp to Lake Hicpochee; and from this lake another drainage canal is to go through to Lake

Flirt, and this lake is connected with the Caloosahatchee River.

On p. 232, March 15, 1905, you will find a description of my visit to Fort Myers, near the mouth of the Caloosahatchee River. I was so much taken up with Fort Myers at the time that I should doubtless have chosen the locality for my winter home instead of Bradentown; but at that time Fort Myers and all of Lee Co. were "wet," and as I did not want my home in a saloon town I chose Manatee Co. I am glad to say now, however, that Fort Myers is a dry town, and has been for some time. Well, I have been having inquiries right along during the past year in regard to buying land in the Everglades. It is true they are at work on the drainage canal; but, as I have said so many times before, do not think of investing money in land, or land anywhere, until you have been on the spot and seen it; and even then make purchases of somebody who lives there and has a fair reputation for honesty. While I can not say much about the Everglades and the vicinity of Lake Okeechobee, my impression is there is some very desirable territory along the Caloosahatchee River in the direction of the lake. The principal difficulty is that but few people live in that region as yet. A railroad runs to Fort Myers, and steamers run up to all towns along the river.

Now, with this long introduction I wish to submit a letter from one of the new towns up toward the big drainage canal. The friend who writes the letter will doubtless give us particulars later on:

Mr. Root:—A number of your readers have written me, asking if there was homestead land here, and if this is a good bee country. To the first question I have replied yes. To the second one I have said I do not know. No one who has bee knowledge has tried it; but I believe it is a good honey country. An unusual thing that is happening now may throw light on this last proposition. The bees that are kept in box hives swarmed as usual in January and February. From what I hear I judge that they were more given to that this year than common. At that time oranges and grapefruit as well as pennyroyal were in bloom. Now the cabbage palmetto is in full bloom, and is giving a heavy honey-flow. It is so heavy that the bees are swarming strong, sending out very big ones. The few bee-keepers are at a loss to understand it, and the wiseacres are predicting disaster to the bees. My impression is that the bees' instinct is all right, and that they will pull through in good shape. Pennyroyal is coming on fine, and the indications are a very early bloom. As it usually begins to flower in November, early flowering would mean October. In the present condition of the honey-flow, even a weak after-swarm should be able to gather enough stores to carry them sixty to ninety days. If you think this will interest your readers, I will watch the outcome, and report when the fall honey-flow is on.

Denaud, Fla., Aug. 13.

FRANK M. BALDWIN,

Friend B., tell the bee-keeping friends in your region they never need fear that a honey-flow any month in the year is going to bring "disaster." I once visited our good friend O. O. Poppleton when he was extracting in January; and when I left Florida a few weeks ago, down on the island Mr. Shumard was then extracting honey that came from the palmettos; and if I am correct a flow of honey *may* come in that

southern climate at almost any month in the year. Yes, friend B., tell us more about the honey-flow in August; and, by the way, I suppose a lot of us would like to know something about that drainage canal? How is it progressing? In regard to land for homesteaders, a friend who has spent several seasons in that region tells me there is plenty of it; but the principal drawback is that it is so far away from everybody.

GETTING RID OF THE MIDDLEMAN AND — SOMETHING ELSE.

Since provisions have become so remarkably high, much has been said about cutting out or getting rid of the middleman as far as possible; or, in other words, letting the producer make a short cut and get into connection with the consumer. The *Rural New-Yorker* has told us that the farmer gets only about a third of what the consumer pays for his stuff. You may remember my telling you about paying 50 cents for a broiled fish on a Pullman dining-car; but when I got down to my own home at Osprey, Fla., the boys were selling just such fish (in ton lots) for only 3 cts. In this case there had to be quite a few middlemen between the producer and the consumer. Again, if you want an apple when traveling on the cars, three nice apples will cost you a dime; but if you go out into a farmer's orchard the dime will pay for a whole peck; but you may have to pick them up yourself.

What I am going to consider to-day is not cutting out the middleman, but I am going to talk about cutting out the *middlewoman*. Never heard of a middlewoman, did you? Well, I will try to introduce you to her; and while the middleman might take offense when you talk about cutting him out because of his large profits, I think you will find the middlewoman not only taking no offense, but she will be exceedingly glad to welcome you. I have talked to you quite a little about no suppers. Mrs. Root and the children—yes, and the grandchildren too, perhaps—laugh when grandfather talks about "no suppers." The reason that they laugh is because of my fruit supper (as they tell it) at five o'clock; a dozen good-sized plums, half as many peaches, and half a dozen apples for dessert. Well, they were not far out of the way. The peaches were quite small, and the apples not very large; and, besides, I was fruit hungry. Now notice. The short cut I was talking to you about, cutting out the middleman and the *middlewoman* too at one bold stroke, was in making a beeline for my favorite apple-tree at just five o'clock. Mrs. Root was the middlewoman in this case. She did not have to prepare any knives and forks and clean napkins to put on the table; no clearing-up of the table nor finishing-up of any kind. I just go out to the apple-tree where beautiful luscious apples are getting dead rip day after day, just

about as fast as we want to use them. After I finish my repast I dip my fingers in the fountain near by and moisten my lips, and use my handkerchief for a napkin, and Mrs. Root does not feel hard, nor complain a bit because she has *nothing whatever* to do in preparing or furnishing the closing meal of the day.

Now, there is still another way in which I am cutting out the need of a middle-woman. My sponge bath, for some weeks back, has been taken just before I go to rest. There are several reasons why I prefer a bath *before* retiring, rather than in the morning. First, I get to sleep better. Second, if I have done any perspiring work during the day, I get washed off clean before I put on my clean night-dress; and by being very thoroughly washed before retiring, the sheets will go ever so much longer without washing; and in this way I save the need of a middlewoman. By the way, is it an easy thing for *you* to get a woman to do the washing in your neighborhood? We have thought that, since the saloons went out of commission, the women who used to do the washing for a living are becoming scarcer and scarcer; and as supply and demand regulate these things, the price of washing goes away up (and the quality of the work often away down); and I believe it is an axiom in economic philosophy that we should try to dispense with things when the price gets to be prohibitive. Now, then, if you wash every day as I do before you retire, your nightgown, pillowslips, and sheets (also underwear) will last a long while without the services of the middlewoman. If that woman happens to be your good wife, she will give you a vote of thanks, I am *sure*, for any effort you may make to lighten her cares and responsibilities.

A FAKE GROCERY COMPANY.

Mr. A. I. Root.—As I have been reading GLEANINGS for a number of years, and have taken special interest in your writings, I wish to call your attention to a fake grocery company which is going through the country. One man by the name of Story goes ahead and takes the orders, and a man by the name of Smith follows two weeks later and delivers the goods. The fake which I have reference to is this: The man who goes ahead taking the order says their soap bars weigh a full pound, where others weigh only 12 oz. Mother ordered one box of 30 bars, or 30 lbs., and she got only 27 12-oz. bars only 20 lbs. and 4 oz. instead of 30. Please publish this so as to put some people "next to them."

Helena, Mo., Aug. 17. E. W. TRACHSEL.

My good friend, I would, as a rule, refuse to have any thing to do with traveling men of this kind. Better trade with merchants in your own town whom you know and can trust. But in the case you mention you should have refused to make *any* advance for goods until you had *seen* them and *examined* them. This should always be the rule, especially when trading with strangers. Perhaps I might suggest that soap is generally losing in weight on account of evaporation; but this could be no possible excuse for furnishing only 27 bars when they agreed to furnish 30.

"GETTING RICH QUICK," "PROFIT-SHARING," ETC.

I do not know but I shall have to keep some warning like the above in every issue; and let me repeat briefly, I would advise you to have nothing to do with any periodical, especially any home paper, whose editor keeps urging you to invest or take stock in some enterprise of his own—I do not care whether it is the *Woman's National Daily* or *Farmer Orth's Poultry Journal*. I would not permit any publication to have a place in the home that keeps continually urging you to invest in its special speculation. The poultry journal mentioned above recently devoted two pages to urging its patrons, one and all, to invest in a new magazine. It went on to tell how much money the editors of our different magazines have made in a short time; and out of the kindness (?) of the editor he unselfishly proposes to permit all his friends to join in with him and *get rich* in just a little while without hard work. Very likely the stories he tells about magazine editors and publishers getting to be millionaires in just a little while are, in the main, true; but because *one* man made a lot of money out of strawberries, celery, or *publishing a magazine*, it does not by any means follow that *you* can do the same, or that *any one* can do it. Just because people insist that they can do what others have done, the world is full of blasted hopes in poultry, strawberries, celery, and publishing magazines. Perhaps everybody does not know that a new magazine is coming out almost every week, and I do not know but every day would be nearer the truth. We see a sample copy put out with a great flourish. Sometimes three or four copies follow, and that is the last of them. The probability is, there is just as good a chance for you to get rich quick at what you are doing this very minute as any thing else you can go into. "Let us not be weary in well doing; for in due time we shall reap if we faint not."

Just one word more in closing. A man who is doing a good business already will not be urging his friends, neighbors, and everybody else, to go in with him and get a *share* of that good business. The above will apply to Florida land speculation as well as any thing else.

After the above was in print I ran on the following, which I clip from a recent number of the *Rural New-Yorker*:

The Circle Publishing Co., publisher of the *Circle Magazine*, at 50 Madison Ave., has filed a petition in bankruptcy, with liabilities \$111,200 and assets \$51,832.

In this connection we repeat what we have so often said, that we do not know of a single successful publication that is or has been trying to sell stock or borrow money on notes from its subscribers. Publishers who try to induce subscribers to furnish the money for their ventures are fond of quoting the large profits made by other publishers; but the successful publishers do not offer their stock to the public. Whatever value a publication has is principally what is called "good will" or franchise; and while this may render a good income to the management, it may and often does disappear with changes of management, and is altogether too uncertain a quantity for the invest-

ment of money by people not connected with the policy of the business. But while there are a few profitable magazines, as a whole they are not big money-makers. Magazines have probably lost more money in the aggregate for publishers than they have made.

There may be a suggestion in the above record for people who are now being tempted to put their money into debentures (notes) issued by the straw man invented by E. G. Lewis.

THE BOYS WHO WANTED A PONY.

A letter from a home where GLEANINGS goes, from a boy nine years old, reads as follows:

Mr. A. I. Root.—I have been wondering if the biggest bee-man in the United States wouldn't help the two little ones.

Molina, Colo., Aug. 14.

The printed circular that goes along with the letter explains that a periodical called *The Farmer's Wife* agrees to give a Shetland pony to the boy or girl who sends them the largest number of subscribers before a certain date. The proprietors of the periodical say they have a farm of 400 acres where they raise these Shetland ponies. They have already given away 18 to the boys and girls who have secured the largest list of subscribers. Now, this boy of nine years is very enthusiastic; yes, he and his brother, only seven, are almost wild over the idea of getting that pony, and ask if Uncle Amos can not consistently lend a helping hand. I confess it made me feel sad to be obliged to say that I could not. The trouble is right here: A lot of boys and girls will go to work getting subscribers so that they may secure that beautiful little pony; and while the successful one will, no doubt, be very happy, there will be a hundred others—yes, perhaps a good many hundred—who will be terribly disappointed because somebody else is just a little ahead of them; and that is always the way it works with almost any contest where a valuable prize is offered to just one person, when a great number have worked equally hard for the prize. And this kind of work seems to be a kind of steppingstone, not only to the prize business, but (to call things by their right name) to the *lottery* business. It develops an unhealthy craze for getting things in that kind of way. I know that such plans often succeed in giving certain periodicals a large circulation; but when people subscribe for a magazine because of the *prize*, and not because of the intrinsic value of the periodical itself, such subscribers are very likely to prove only transient. May God help us to be careful about setting a good example, and *only* a good example, before our children.

ROBBING SICK PEOPLE; ELECTROPOISE, OXYDONER, AND OTHER "HUMBAG TOYS."

Something like twenty years ago GLEANINGS began to expose the preposterous claims of Electropoise. Our older readers

will remember all about it. A little later the same thing came up under the name of "Oxydonor;" and in spite of the warnings we held up in almost every issue, many good people paid \$25.00 for a senseless toy that did not cost the manufacturer 25 cents. They claimed at the same time that they had testimonials from a hundred ministers of the gospel; and the good pastor of our church obtained permission for me to speak before a conference of ministers, at which time I gave them a vehement protest in regard to permitting swindlers to use their names. So many people, however, insisted that Oxydonor possessed *real virtue* that I made some bitter enemies among some of my good friends, and I am afraid that some of them are enemies still. When GLEANINGS seemed unable to stem the tide I appealed to the *Rural New-Yorker*. They invited Dr. Sauche or one of his representatives to bring his trappings to their office; and the result was they promptly denounced him and his so-called invention. After the *Rural* and GLEANINGS together protested with all the influence they could bring to bear,* most respectable periodicals refused to advertise Oxydonor any longer; and I had been congratulating myself that this form of robbing sick people had finally gone out of fashion; but the following clipping from the *Rural New-Yorker* intimates that this old doctor (?) is still at it where, or he can find victims. I have appealed to the Post-office Department at Washington several times, but they do not seem to be able or willing to put him in the penitentiary, where he belongs. See the following from the *Rural*:

I wish you would do what you can to warn people through your paper against a most pernicious medical fraud called Dr. Sauche, of Oxydonor fame. Have you heard of him? This device which he calls "Oxydonor" (oxygen-giver), and for which he gets \$14.00, consists of a little metal band to be buckled around the patient's ankle, and connected by a cord with a small metal disk which is to be immersed in a basin of water for half an hour at a time. The device might cost, perhaps, 25 cents to manufacture, and he makes his deluded patrons believe that it will charge their whole systems with a vast quantity of oxygen, and cure any disease, however long standing, or intractable, or even fatal. It would seem as though a moment's consideration would show even ignorant persons that the only way oxygen could possibly enter the system would be through the lungs; but I know positively that this fau^lse has swindled thousands of very poor and very sick people out of \$14.00 apiece for a perfectly worthless device. I have an idea that he is advertising through the country papers mainly now, through fear of the pure-food and drugs law. If you can warn your readers against him you will be putting them under still greater obligation to your paper. His address was Chicago, Ill., at last accounts.

Ohio.

AN M. D.

There seems to be little to add to what this physician has said above. Our own experience confirms what he says about the purchase of the fake by poor and sick people. In one or two cases reported to us we insisted on a refund of the money, and it was returned, no doubt, under fear of exposure.

From the above it would appear that he has reduced the price from \$25.00 down to \$14.00; but 14 *cents* would be more appropriate, especially when it is some poor wash-woman who scrapes up the money from her hard earnings.

*So many inquiries came in that we were obliged to print circulars at different times, explaining the fraud; and we have some of those circulars still that we send out whenever the matter bobs up again.